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# Net Children Go Mobile

Risks and opportunities.

Giovanna Mascheroni & Kjartan Ólafsson



Full Findings  
Report

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Net Children  
Go Mobile



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**Go Mobile**

## Net Children Go Mobile: Risks and opportunities

Giovanna Mascheroni & Kjartan Ólafsson

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# 1 Introduction

## 1.1 Context

Both childhood and the media environment are changing and co-determining each other (Livingstone, 2009). Children are growing up in a **convergent media ecology** (Ito *et al.*, 2009), whereby significant opportunities for sociability, self-expression, learning, creativity and participation are provided by online media and increasingly, mobile media (Hjorth & Goggin, 2009; Goggin 2010). However, children may also experience risks on the internet: since 2006, the EU Kids Online network has investigated online opportunities and risks for children, showing their interdependence (Livingstone *et al.*, 2011): the more children use the internet, the wider range of opportunities taken up, the more they are exposed to risky experiences. The changing conditions of internet access by means of mobile media call for new research on children's online experiences, opportunities and risks of the mobile internet.

Although there is much current discussion of mobile media, there is scope for different definitions at this point in time as well as changing definitions over time if, like the internet itself, **mobile media are a moving target** as new technologies and applications are continuously developed. That said, any research project has to define its object of study. Certainly, we would like to differentiate between experiences of the internet when it is accessed by PCs (including via laptops and netbooks) and the online experiences when accessed by portable devices that utilise different operating systems (e.g. smartphones and tablets) since these technological affordances can either enable or hinder different practices.

Hence, when we speak of the 'mobile internet' in this project, we refer to access to the internet from mobile media that is potentially different from a PC-based online experience. The mobile media we focus on are as follows:

- **Portable devices connected to the internet** via wifi or 3G/4G, such as smartphones, tablets, feature phones, portable games consoles and MP3/MP4 players (such as iPod Touch) and e-book readers. Thanks to their portability, the internet can technically be accessed anywhere, anytime that there is a signal, although it is not exclusively used while on the move, and social considerations affect its usage.
- **Convergent multifunctional devices**, which support an ever-growing repertoire of communication practices and online activities. These combine options already supported by previous generations of mobile phones (such as phone calls, text messages, games, radio, music, photos) with activities usually performed on computers, the internet and social media (such as email, instant message services, social network sites [SNS], maps, video, television and blogging). They also enable new activities such as those related to location-based services, and those performed through apps (which can shape new online experiences).
- **Personal devices**,<sup>1</sup> which are affective media (evoking emotional attachment) that have become taken-for-granted components of everyday lives. Being personal and portable, mobile media make the way we consume media and engage in online practices more flexible and personalised, and create new opportunities for private use within the domestic/school/public context. This **privatisation of access and use** is accompanied by **the pervasiveness of the internet in children's daily lives**, and implies the creation of different social conventions of freedom, privacy, sociability and not least, supervision by parents and adults.

One question is whether, by potentially expanding the range of online opportunities, the mobile internet is promoting a specific repertoire of communication and entertainment activities - eg.

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<sup>1</sup> It should be noted that we are interested not just in the owners of mobile devices, but also in users (e.g. of shared tablets).

social networking and gaming - which are preferred by children compared to educational and other more socially legitimate online activities. Another question is, as anticipated, **whether access to the internet by means of mobile media poses greater, fewer or newer risks** to children.

Our aim is therefore to understand and distinguish the mobile internet experience from the PC-based internet experience in terms of opportunities and risks.

## 1.2 The policy agenda

Both researchers' and policy makers' agendas attribute an increasingly crucial role for children's online safety to teachers', peers' and especially parents' mediation. As the media and communication environment becomes increasingly difficult for governments to regulate, greater parental responsibility in the domestic regulation of their children has been advocated (Oswell, 2008). Thus, activities that were hitherto seen as being private - as parental regulation of children's media use - are increasingly being addressed within public policy frameworks, especially those concerned with protecting children from media-related harm (European Commission, 2008).

Drawing on the EU Kids Online framework, we can understand **parental mediation** of children's internet use as typically articulated in five main forms (Livingstone *et al.*, 2011):

- **Co-use and active mediation of internet use** involves parents discussing with their children what they do online, sharing their online activities and sitting with them while they are online.
- **Active mediation of internet safety** entails parents promoting safer uses of the internet, giving advice on risk and helping children when something on the internet bothers them.
- **Restrictive mediation** entails parents setting rules that limit children's media use (by time or

activities).

- **Monitoring** refers to parents checking available records concerning the child's internet use.
- **Technical restrictions** entail the use of software to filter, restrict and monitor the child's internet use.

Overall, the EU Kids Online findings found a positive picture of parental mediation. Not only do parents express confidence in their children's ability to cope with online risks, but children also welcome parental interest and involvement (Haddon, 2012). As regards which parenting strategies work best, while restrictive mediation is clearly associated with lower risk, it may also reduce children's chances of benefiting from the online world, and there is also evidence that parental active mediation of internet use can reduce children's experience of harm without restricting their opportunities (Dürager & Livingstone, 2012).

The portability of smartphones and their personalised and private nature, inherited from ordinary mobile phones, poses **new challenges to parents' ability and willingness to share and supervise their children's use of online media**. Mobile phones can facilitate technical and monitoring mediation, but mobile access may make active mediation more difficult -because the device is more personal, it has smaller screens, etc.. Thus, it becomes necessary to explore the new conditions under which parental mediation is taking place, in order to shed light on the new kinds of constraints and possibilities parents consider when trying to mediate their children's internet experiences.

**Teachers and educational institutions** also play a crucial role in mediating the internet activities undertaken by children from their mobile media. As with parents, online access from mobile platforms deeply modifies both the preconditions for and effectiveness of mediation strategies adopted in school contexts. Thus, we need to understand whether and to what extent teachers are incorporating mobile platforms into e-safety

education as well as into class activities overall, and if they need to be supported in carrying out this role, for instance, increasing their awareness about specific risks or signalling priorities to address.

The new conditions of social mediation of mobile internet access define **a new agenda for policy making**. The new convergent media ecology requires a close collaboration between the various social actors that are able to shape children's online experience. Self-regulatory initiatives from the mobile phone industry, such as the European Framework for Safer Mobile Use by Younger Teenagers and Children, or other self-regulatory initiatives endorsed by the European Commission such as the CEO Coalition to Make the Internet a Better Place for Kids and the ICT Coalition for the Safer Use of Connected Devices and Online Services by Children and Young People in the EU<sup>2</sup> 'are starting to take into account the new developments related to the mobile internet, but it is essential to include them in a constructive dialogue with governments, child experts, non-governmental organisations (NGOs), academics, parents and educators as well as children. In this light, the Net Children Go Mobile findings are interpreted in order to set a list of policy priorities and to identify those critical areas where cooperation between various stakeholders is indispensable for an effective promotion of internet safety.

### 1.3 The project

The Net Children Go Mobile project is co-funded by the **Safer Internet Programme** to investigate through quantitative and qualitative methods how the changing conditions of internet access and use – namely, mobile internet and mobile-convergent media – bring greater, fewer or newer risks to children's online safety. Participating countries include **Denmark, Italy, Romania, the UK, Belgium, Ireland and Portugal**, the latter three joining the project on a self-funded basis.

<sup>2</sup> See [www.ictcoalition.eu](http://www.ictcoalition.eu)

Clearly, these countries cannot be assumed as representative of Europe as a whole. However, the rationale for choosing the first initial countries, as well as the three new countries, represents a clear strength of the project in terms of extending the validity of the findings beyond these single countries to the pan-European area. Indeed, Belgium, Denmark, Ireland, Italy, Portugal, Romania and the UK are emblematic of socio-cultural and technological differences across Europe that have to be considered when planning policy and awareness-raising initiatives aimed at promoting children's online safety on mobile-convergent media. The countries differ in many respects: in terms of their particular historical domestication of mobile phones, which may now influence the domestication of smartphones and other handheld devices; in terms of the digital cultures of their youth; in relation to the incidence of online risks among children; and finally, in terms of childhood and parenting cultures.

With respect to the diffusion of mobile phones during the 1990s, Denmark (as in the other Northern European countries), the UK and Italy have all been characterised by a rapid and pervasive adoption of mobile phones, which have become a distinctive component of youth cultures. The popularity of the devices and the new communication practices (such as SMS [short message service]) in these countries in turn gave rise to a substantial body of national empirical research on the social uses of mobile telephony (Green & Haddon, 2009). It is not only different processes of incorporation of mobile media in the context of everyday life, but also varying technological and economic mobile communications infrastructures that influence the current adoption of smartphones, by supporting or inhibiting it. By investigating access and usage of mobile phones, smartphones and other convergent media devices, the Net Children Go Mobile project provides a portrait of the domestication of new mobile ICTs (information and communication technologies) in relation to social and cultural variations, thus enabling explanations that can be extended to other countries, with similar national media systems, technological infrastructures, patterns of adoption of other ICTs, etc.

The countries participating in Net Children Go Mobile are also relevant in terms of children's experiences of online risks, and their implications for safety awareness policies. According to the new classification provided by the EU Kids Online study (Helsper *et al.*, 2013), Belgium, Italy, Ireland, Portugal and the UK belong to the category of countries where children are 'protected by restrictions' - the countries are characterised by relatively low levels of risk, probably because internet use is also more limited and largely restricted to practical activities; Denmark belongs to the 'supported risky explorers' category - with children who are experienced social networkers and are exposed to more sexual risks online, and with parents more actively involved in guiding their children's internet use; while Romania is included in the group of countries where children are 'semi-supported risky gamers' - whereby children encounter only moderate online opportunities, mainly focused on gaming, and yet they experience relatively high levels of risk and harm. The EU Kids Online II verified this classification by comparing daily use of the internet by children, their exposure to risks and parental mediation strategies. Comparing the countries involved in the Net Children Go Mobile project therefore provides further data relevant for the above classification system and the evidence-based policies that can be applied in different countries with similar patterns of internet use, online risks and mediation.

Finally, these countries are emblematic of different cultures of childhood and associated parenting styles. Although all European countries support the United Nations Convention on the Rights of the Child (UNCRC), approaches vary somewhat throughout Europe, and sustain national constructions of childhood, ranging from child-centred states, such as Denmark, to states where the 'child in danger' perspective dominates. Based on these differences, *ad hoc* awareness campaigns and policy initiatives can be planned and extended to other European countries.

## 1.4 Framework and methodology

Drawing on the experience of network members within the EU Kids Online network, the conceptual framework is operationalised in a *child-centred*, *critical*, *contextual* and *comparative* approach (Livingstone & Haddon 2009; Livingstone *et al.*, 2011), which understands children's online experiences as contextualised and shaped by three intersecting circles: 1) childhood, family life and peer cultures; 2) media systems and technological development; and 3) the European social and policy context.

Accordingly the project assumes that the voice and viewpoint of children is crucial to understanding online opportunities, risks and any harmful consequences of mobile-convergent media use. The combination of quantitative and qualitative data will contribute to enhancing knowledge on children's uses of mobile-convergent media by providing clear, representative and cross-nationally comparable quantitative data, combined with in-depth qualitative and comparative research on children's social awareness and perceptions of mobile media risks. Moreover, the qualitative fieldwork includes group interviews with parents, teachers and other youth workers, in order to compare children's and adults' perceptions and awareness of mobile internet risks, and to provide empirical data that can inform awareness-raising initiatives and guide safety policies.



## 1.5 This report

This report is the second of several reports to be produced by the project team during 2013-14. It presents the findings of a survey that involved 2,500 children aged 9-16 who are internet users and their parents<sup>3</sup> in Denmark, Italy, Romania and the UK between May and July 2013; and in Ireland between November and December 2013. At the time of writing the report, Belgium and Portugal are about to start fieldwork. Therefore a revised version of this report will be released in Spring 2014, including data from Belgium and Portugal.

Key features of the survey are:

- A cognitive testing with eight children from different age groups (9-10, 11-12, 13-14, 15-16) in each country, to check children's understandings of and reactions to the questions.
- Random stratified survey sampling of some 500 children (9-16 years old) who use the internet per country.
- Survey administration at home, face to face, with a self-completion section for sensitive questions.

On several occasions we compare the findings of the Net Children Go Mobile survey with the 2010 EU Kids Online survey. When such comparisons are made we calculate an average number from the EU Kids Online survey only for the countries included in the Net Children Go Mobile survey, thus attempting to provide as direct a comparison as possible.

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<sup>3</sup> Parents were asked questions on the household's demographics and socio-economic background, as well as on their own use of the internet, smartphones and tablets.

## 2. Access and use

Prior research has shown that the social context of internet access and use shapes children's online experiences and, more specifically, the conditions under which children are taking advantage of online opportunities, or are exposed to online risks (Livingstone *et al.*, 2011). With respect to internet access, mobile-convergent media are likely to expand the spatial and temporal locations of internet use among children by providing 'anywhere, anytime' accessibility, although economic or technological constraints (such as the cost of web packages or the lack of wifi connections) may actually limit the use of mobile devices when children are on the move. Nonetheless, mobile-convergent media may reconfigure social conventions of freedom, privacy and surveillance.

To attempt to capture the complexity of internet use in children's everyday lives we use three indicators. *Location of use*: own bedroom at home; at home but not in own room; at school; other places such as libraries, cafés and relatives' or friends' homes; when out and about, on the way to school or other places. *Frequency of use*: several times each day, daily, at least every week, never or almost never. *And devices through which they go online*: desktop computers, laptop computers, mobile phones, smartphones, tablets, other handheld devices such as iPod Touch, e-book readers and games consoles.

### 2.1 Where children use the internet

**The ways through which and the locations from which children go online are diversifying,** as the EU Kids Online findings (Livingstone *et al.*, 2011) already showed in 2010. Indeed, the increasing diffusion of portable devices and mobile-convergent media may actually expand the range of places and social situations where

children access the internet, fostering the so-called 'ubiquitous internetting' (Peter & Valkenburg, 2006) and the pervasiveness of online activities in children's everyday lives.

However, when asked how often they go online from the diverse locations listed above by means of any device, children still indicate **the home** – whether their own bedroom or another room at home – **as the most common location of internet use**. Table 1 shows how often children use the internet at the locations asked about, bearing in mind that they generally use it in more than one location.

**Table 1: How often children use the internet in different places**

%	Several times each day	Daily or almost daily	At least every week	Never or almost never
Own bedroom	35	26	10	30
At home but not in own room	25	34	21	20
At school	10	14	36	41
Other places (home of friends/ relatives, libraries, cafés)	8	12	33	47
When out and about, on the way to school or other places	9	12	10	69

Q1 a-e: Looking at this card, please tell me how often you go online or use the internet (from a computer, a mobile phone, a smartphone, or any other device you may use to go online) at the following locations...

Base: All children who use the internet.

- **Two out of three children in our sample (61%) access the internet from their own bedroom on a daily basis**, with 35% of the interviewees saying they do so several times a day. Only 30% of children do not use the internet in their own bedroom or a private room at home.
- Only slightly less common is **internet access from another room at home: 59% of children** report using the internet several times a day or at least once a day in a room which is not their private room.

- If we consider locations where children access the internet at least once a week, then the percentage of children using the internet in a private bedroom or in a public room at home increases to 70% and 80% respectively.
- **The third most common context of internet access and use is school**, where most of the children report having access to the internet daily (24%) or weekly (36%).
- Nearly half of the children use the internet once a week or more in other places such as at friends' or relatives' homes, or in public places such as libraries or cafés.
- **Internet access while on the move** – such as on the way to school or when out and about – is **still limited** although on the rise. More specifically, only 9% of our sample say they access the internet several times a day when out and about, a few more children (12%) use the internet on the move at least daily, while the majority (69%) say that they do not use the internet on the move. While this is clearly related to the ways children connect to the internet - more specifically to the availability of internet plans (Table 5) - interviews and focus group also suggest that children may be wary of using smartphones on the move because they fear they might be stolen or lost.

Table 2 shows the distribution of daily internet access in the locations asked about by gender, age and country, and helps us to understand in more detail the changing contexts of internet use

**Table 2: Daily internet use in different places, by gender, age and country**

		% Own bedroom	% At home but not own room	% At school	% Other places	% When out and about
Boys		62	56	23	18	20
Girls		60	62	24	21	22
9-10		29	44	8	6	3
11-12		51	59	21	13	11
13-14		76	65	24	26	26
15-16		83	65	38	32	40
Denmark		77	76	61	38	26
Ireland		46	63	7	11	8
Italy		58	52	8	18	30
Romania		60	40	11	9	8
UK		64	63	29	22	32
All		61	59	23	20	21

Q1 a-e: Looking at this card, please tell me how often you go online or use the internet (from a computer, a mobile phone, a smartphone, or any other device you may use to go online) at the following locations...

Base: All children who use the internet.

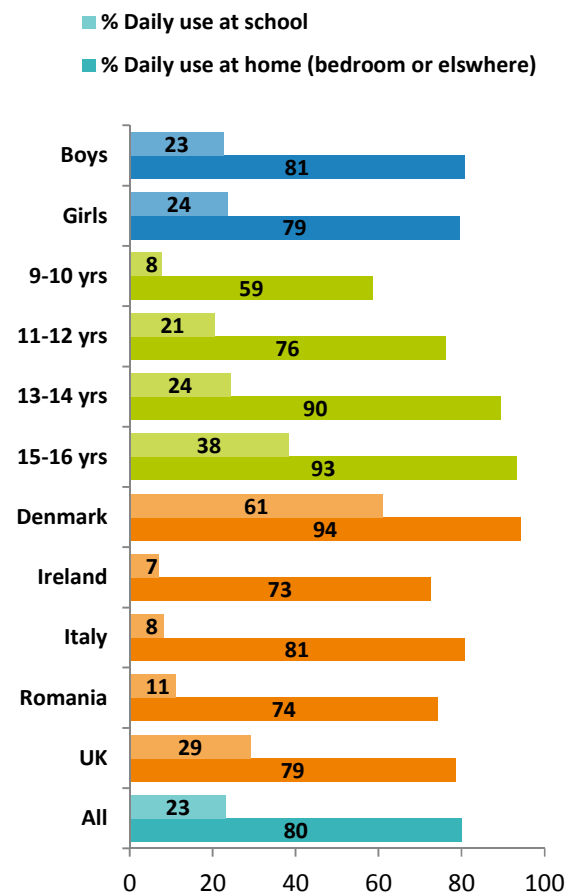
- In all the locations asked about, **daily internet access is strongly differentiated by age**, with older children having more access everywhere.
- Age differences, however, are more pronounced for **private and mobile internet use**, with **teenagers aged 15-16** far more likely to access the internet at least daily in their own bedroom (83%) or when out and about (40%) than any other age group. This suggests that **teenagers benefit from a better online experience in terms of flexibility, ubiquity and privacy**.
- Gender differences in access are minor, although girls are slightly more inclined to access the internet everywhere at home on a daily basis, while boys prefer their own bedroom.
- Daily use of the internet varies considerably by country. For example, while **private access to the internet at least daily** is the **most common experience in all countries**

considered **except Ireland**, it is in general significantly higher in Denmark. Meanwhile, **Romanian children are more likely to access the internet daily in the privacy of their bedroom than anywhere else at home (60% compared to 40%)**. By contrast, 63% of Irish children report using the internet several times a day or at least once a day in a room which is not their private room, compared to 46% who use the internet in their room.

- While Danish children are more likely to access the internet on a daily basis at home, school and other places than children in other countries, **daily internet access when out and about is actually higher in the UK and Italy** – where one third of children use the internet on the move – **but lowest in Romania and Ireland**.
- Country differences are also relevant when we examine **school** access. While the school is considered to be a strategic site for awareness raising and e-safety campaigns, 37% of children do not use the internet at school or else **use the internet at school less than once a week**, and this percentage rises to **73% of Italian children**.
- While school access at least once a week is more common in the UK (87%), only in Denmark is the internet being significantly integrated into daily school activities (61%).

Figure 1 shows the comparison between home and school access across gender, age groups and countries:

Figure 1: Comparison between home and school access



Q1 a, Q1 b and Q1 c: Looking at this card, please tell me how often you go online or use the internet (from a computer, a mobile phone, a smartphone, or any other device you may use to go online) at the following locations...

Base: All children who use the internet.

- As we have already observed, both home (in own bedroom and/or another room at home) and school access to the internet on a daily basis increase with age. However, while more than half (59%) of 9- to 10-year-old children use the internet at home at least once a day, just 8% of the same age group and a minority, 38%, of the oldest group (teenagers aged 15-16) have internet access in school on a daily basis. This suggests that **the internet is mainly a domestic phenomenon** and that it has not yet been integrated into school life.
- Country differences are also noteworthy: only young Danes have thoroughly incorporated the internet into both domestic and school everyday life contexts and activities, also

thanks to different rules regarding the use of wifi networks and smartphones in schools (see chapter 9, Figure 44 and Figure 45). By contrast, in Ireland, Italy and Romania, daily internet access is almost exclusively domestic.

- Gender differences are minor, with girls slightly more likely to use the internet at school every day than boys.

To conclude, **home** is still the **main context of internet use**. In terms of policy recommendations, therefore, empirical evidence confirms the need to focus on promoting awareness among parents as a means of reaching wider populations of children. However, as we have seen, teenagers use the internet at home **in the privacy of their own bedroom** more than in a public room. Additionally, a further challenge to parental mediation comes from portable, personal devices through which children can create new spaces of privacy within the domestic context, shared rooms included.

## 2.2 How children access the internet

The **increasing privatisation of internet use** is even more pronounced when we look at the devices through which children access the internet in each of the locations asked about.

Table 3 shows what devices children use at least daily to access the internet in different places, suggesting a shift towards **a post-desktop media ecology**.

- Among all the devices asked about, **smartphones** are the **most used** devices **on a daily basis in all contexts**. Being personal and portable, smartphones are seemingly carried around in various places and integrated into different social contexts and activities.
- **The smartphone** is also the device that is used most **on the move (22%)**, followed by much lower use of tablets (7%), other handheld

devices such as the iPod Touch (7%), games consoles (6%) and e-book readers (6%).

**Table 3: Devices used to go online daily in different places**

%	Own bedroom	At home but not own room	At school	Other places	When out and about
Desktop computer (PC)	18	16	8	3	1
Laptop computer	30	27	8	5	1
Mobile phone	10	8	3	4	3
Smartphone	37	36	19	22	22
Tablet	22	22	5	9	7
E-book reader	9	8	2	5	6
Other handheld devices	14	13	4	8	7
Home games consoles <sup>4</sup>	16	15	2	8	6
Access at least once a day	61	59	23	20	21

Q2 a-h: When you use the internet these days at ..., how often do you use the following devices to go online?

Base: All children who use the internet.

- However, the place where **children are more likely to use their smartphones at least once a day** is actually their **own bedroom (37%) or another room at home (36%)**. This suggests that children value privacy and convenience more than mobility – perhaps because the smartphone is always ‘at hand’ and doesn’t need to be turned on.
- Laptop computers are also accessed on a daily basis by a significant number of children, although their use is mainly limited to the child’s bedroom (30%), another room at home (27%) and school (8%).
- For each device considered, use on a daily basis is higher in children’s bedrooms. This reinforces a phenomenon known as ‘**bedroom culture**’ (Livingstone & Bovill, 2001): since

<sup>4</sup> The questionnaire asked about the use of home games consoles, but the fact that 8% of respondents say that they use home game consoles when ‘out and about’ might reflect the ambiguous meaning of that phrase or that some respondents are thinking about portable versions of devices that are mostly used in the home.

children are immersed in media-rich bedrooms that represent the main context of their leisure time, practices and meanings associated with identity construction, sociality and self-expression are increasingly embedded in the space of the bedroom, and, thus, increasingly mediated and privatised.

Table 4 shows how daily use of different devices varies by age and gender.

**Table 4: Daily use of devices, by age and gender**

%	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
Desktop computer (PC)	36	27	46	34	36
Laptop computer	36	33	50	59	45
Mobile phone that is not a smartphone	8	13	15	22	15
Smartphone	28	28	59	62	45
A tablet	24	20	35	40	30
E-book reader	10	8	22	26	17
Other handheld devices	11	12	30	36	23
Home games consoles	22	13	35	29	25

Q2 a-h: When you use the internet these days at ..., how often do you use the following devices to go online?

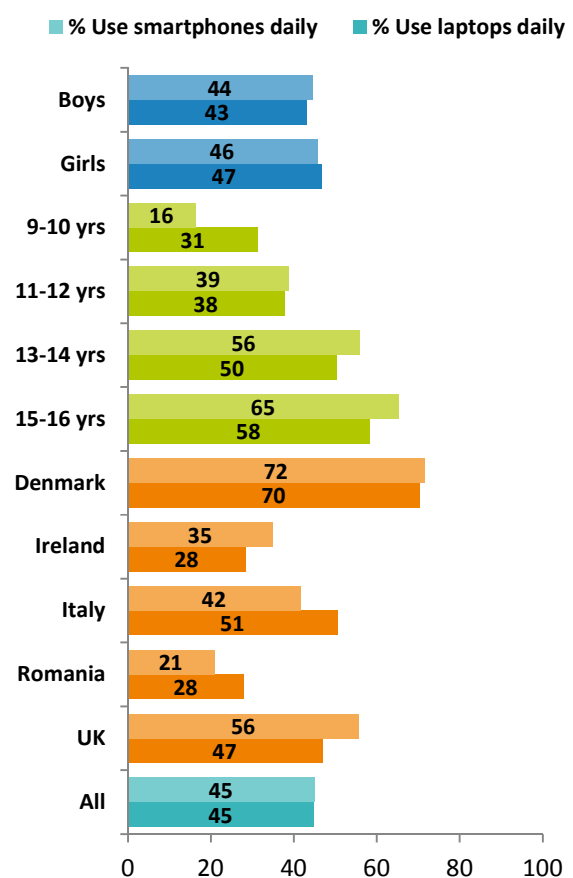
Base: All children who use the internet.

- Across all age groups, laptops (45%) and smartphones (45%) are the two devices most used to go online followed by desktop computers (36%) and tablets (30%). However, age and gender differences are noteworthy.
- Use** of each of the devices considered generally **increases with age**, but the age divide is greater for certain devices. The use of smartphones is particularly structured by age, with only 28% of boys and girls aged 9-12 having access to a smartphone as opposed to 59% and 62% of teenage boys and girls respectively. Age differences matter less for ordinary mobile phones.

- Use of different devices also varies by gender.** Indeed, certain devices are seemingly highly gendered: while boys of all age groups are more likely to use desktop computers and home games consoles, teenage girls are more likely to use a laptop computer and a mobile phone which is not a smartphone to go online.

Figure 2 looks at the daily use of smartphones and laptop computers.

**Figure 2: Daily use of smartphones and laptops, by gender, age and country**



Q2 b and Q2 d: When you use the internet these days at ..., how often do you use the following devices to go online?

Base: All children who use the internet.

- Figure 2 shows that, while gender differences in the daily use of smartphones are very low, girls are slightly more likely than boys to use laptops on a daily basis.
- The daily use of smartphones and laptops is more differentiated by age: **while younger**

**children are more likely to use laptops every day, teenagers use smartphones more.**

- Variations across countries are also noteworthy: while children in Italy and Romania are more likely to use laptops daily, their peers in Ireland and the UK use smartphones more than laptops, while young Danes are equally likely to use both devices.

As anticipated, despite mobile-convergent media providing in principle ‘anywhere, anytime’ connectivity, mobile internet use may actually be constrained by the cost of the service. This may particularly affect younger children, who can count on less pocket money than teenagers. The availability of wifi networks may also vary, being unevenly distributed across countries, and across different regions within the same country (e.g. urban versus rural areas).

Table 5 examines how boys and girls of different ages and in different countries access the internet from mobile phones or smartphones.

- The ways in which children connect to the internet from their mobile phones or smartphones is strongly differentiated by age, country and, to a minor extent, by gender.
- Children aged 9-10 (35%) and children living in Romania (41%) are more likely to have a phone that does not connect to the internet.** This is in line with the fact that children in Romania are not likely to use the internet when out and about (Table 2). In contrast with Romania, and consistent with a higher use of the internet on the move in Denmark, **just 7% of Danish children own or have for private use a phone that does not provide internet access.**

**Table 5: Ways of connecting to the internet from mobile phone/smartphone, by gender, age and country<sup>5</sup>**

	% mobile internet plan and free wifi	% mobile internet plan only	% free wifi only	% phone does not connect to the internet
Boys	34	15	28	23
Girls	28	20	31	21
9-10	17	11	37	35
11-12	27	17	31	25
13-14	30	20	34	17
15-16	40	18	23	19
Denmark	51	14	28	7
Ireland	5	7	75	14
Italy	32	24	18	26
Romania	15	24	20	41
UK	41	17	18	24
All	31	17	30	22

Q8 a-c: Are you able to connect to the internet from your smartphone/mobile phone, and if so, how do you connect?  
Base: All children who own or have for private use a mobile phone or a smartphone.

- More interviewees **(31%) use both free wifi networks and internet plans** to go online from their smartphones or mobile phones. If we look at gender, age and country differences, the percentage of children going online through both wifi networks and mobile web packages is higher for **boys (34%), children aged 15-16 (40%) and Danish children (51%)**.
- Younger children** (37% of those aged 9-10 and 31% of those aged 11-12) and children in Ireland (75%) **are more likely to be restricted in using only free wifi networks** than the average (30%).
- In contrast, the number of children who go online from their phones/smartphones using

<sup>5</sup> Note that this table replaces the table published in a previous report, Mobile internet access and use among European children. Initial findings of the Net Children Go Mobile project (Mascheroni & Ólafsson, 2013), where figures for individual countries, and the overall figure for all respondents, was incorrect.



**mobile internet plans only is higher than the average (17%) in Romania and Italy (24%), among girls (20%) and among children aged 13-14 (20%).**

To conclude, while those who can rely both on mobile web packages and wifi networks to go online from their mobile phones and smartphones can actually benefit more from ‘ubiquitous interneting’, those accessing the internet either through free wifi networks only or through internet plans only are likely to experience more constraints when using mobile devices to go online.

## 2.3 Ownership

The use of a device and ownership do not necessarily coincide, with **children having access to a wider range of devices than those they actually own or have for private use**. However, ownership and private use shape the quality of online experience, with children owning a certain device being more likely to use it intensively throughout the day.

Table 6 shows which devices children own or have for private use, and how ownership varies by age and gender.

- **Smartphones are the devices children are most likely to own across all age groups and gender (51%)**, followed by laptop computers (43%), desktop computers (29%) and ordinary mobile phones (30%).
- **Ownership** of each of the devices in general **increases with age**, but the age divide is greater for certain devices. The possession of smartphones is particularly structured by age, with 35% of boys and 36% of girls aged 9-12 having a smartphone for private use as opposed to 67% and 64% of teenage boys and girls respectively. Age differences matter less for ordinary mobile phones.

**Table 6: Ownership of devices, by age and gender**

%	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
Desktop computer (PC)	25	26	36	28	29
Laptop computer	31	35	48	56	43
Mobile phone that is not a smartphone	25	29	34	32	30
Smartphone	35	36	67	64	51
Tablet	13	19	24	21	20
E-book reader	8	7	7	11	8
Other handheld devices	12	10	13	16	13
Home games consoles	46	25	55	18	36

Q3 a-h: Do you personally own or have for your private use any of these devices? (By private use of a device we mean a device that only you use.)

Base: All children who use the internet.

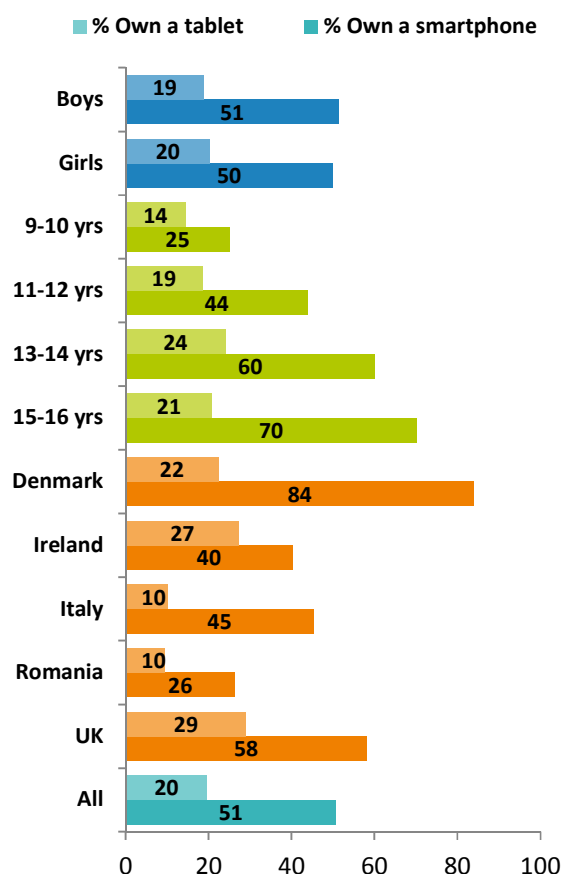
- **Ownership of different devices also partially varies by gender.** Indeed, certain devices are seemingly highly gendered: while boys of all age groups are more likely to own home games consoles, girls are more likely to have a laptop computer and younger girls are also more likely to have a tablet computer.

Figure 3 shows how ownership of smartphones and tablets varies by age, gender and country.

- Overall, age and country differences in smartphone and tablet ownership matter more than gender.
- **Teenagers** (60% of children aged 13-14 and 70% of older teenagers) **are more likely to own or have for private use a smartphone** than younger children (25% of children aged 9-10 and 44% of those aged 11-12).
- **Also, children in Denmark (84%) and the UK (58%) are more likely to be smartphone owners** than their peers in Italy (45%), Ireland (40%) and Romania (26%).



Figure 3: Ownership of smartphones and tablets, by age, gender and country



Q3 a-h: Do you personally own or have for your private use any of these devices? (By private use of a device we mean a device that only you use.)

Base: All children who use the internet.

- The ownership of tablet computers follows different patterns with respect to age – tablet ownership is lowest among children aged 9-10 and highest among teenagers, but the divide between the youngest and the oldest is much narrower than in the case of smartphones – and country differences – children in the UK, Ireland, and Denmark are more likely to be given a tablet, although again, the gap between the country with the highest penetration (the UK, with 29%) and countries with the lowest penetration (Italy and Romania, with 10%) is narrower than in the case of smartphones.

Table 7 shows ownership of devices compared with daily use of those same devices (defined as using that device to access the internet at least daily in any of the given locations).

Table 7: Children who own devices and children who use devices daily, by age

% Own	9-12 years		13-16 years	
	Own	Use daily	Own	Use daily
Desktop computer (PC)	26	31	32	40
Laptop computer	33	35	52	54
Mobile phone that is not a smartphone	27	10	33	18
Smartphone	35	28	65	61
Tablet	17	23	23	33
E-book reader	7	5	9	15
Other handheld devices	11	9	15	26
Home games consoles	36	16	36	27

Q3 a-h: Do you personally own or have for your private use any of these devices? (By private use of a device we mean a device that only you use.)

Q2 a-h: When you use the internet these days at ..., how often do you use the following devices to go online?

Base: All children who use the internet.

- Slightly more children say that they use a desktop computer at least daily to access the internet than those who say that they own such a device or have it for their private use. This might indicate that **desktop computers are, to some extent, shared devices**, that might be shared with siblings, classmates, etc.
- If this comparison between daily use and ownership is to be taken as an indicator of devices that are **shared** between more individuals, then **tablets** would also fall into that category with a considerably higher percentage of children saying that they use such a device at least daily to access the internet than the percentage of children who say that they own such a device. Indeed, evidence from interviews and focus groups shows that borrowing parents' tablet is quite common, especially among younger children.
- For smartphones, however, the percentage of children who say that they own a smartphone is higher than the percentage of children who say that they use a smartphone at least daily to access the internet.

## 2.4 Age of first use

Prior research (Livingstone *et al.*, 2011) showed that the average age when children start using the internet is dropping, with younger children starting to use the internet at a younger age. In the Net Children Go Mobile survey, we asked children how old they were when they started to use the internet, but also at what age they were given a mobile phone and/or a smartphone.

Table 8 compares the average age children were given access to these different devices, across age groups, gender and countries.

**Table 8: Age of first internet use, first mobile phone and first smartphone, by gender, age and country**

	How old were you when you first...		
	Used the internet	Got a mobile phone	Got a smartphone
Boys	8	9	12
Girls	9	9	12
9-10	7	8	8
11-12	8	9	10
13-14	9	10	12
15-16	10	10	14
Denmark	7	8	11
Ireland	9	10	12
Italy	9	10	12
Romania	9	9	12
UK	8	10	12
All	8	9	12

Q5: How old were you when you first used the internet?

Q6: How old were you when you got your first mobile phone (a phone which is not a smartphone)?

Q7: How old were you when you got your first smartphone?

Base: All children who use the internet.

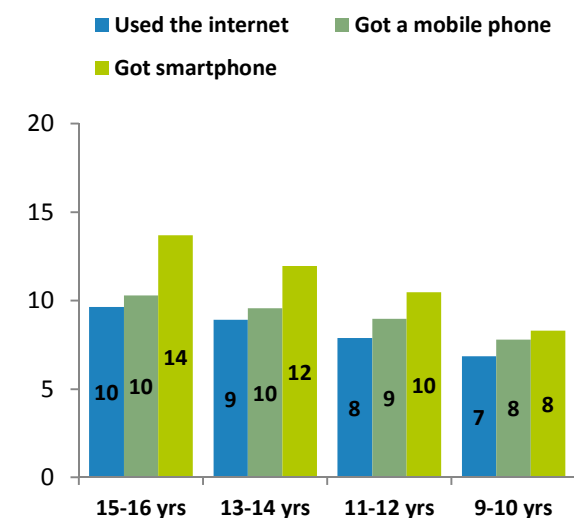
- **The average age of first internet use is still dropping, now being eight years old** in the five countries. However, the age at which children start using the internet varies by country, age group and, to a lesser extent, by gender. Children now aged 9-10 and children living in Denmark started to use the internet on

average when they were seven. Teenagers now aged 15-16 and children in Italy or Romania were 9-10 when they first used the internet. On average, girls started using the internet later than boys.

- The age when children were given their **first mobile phone** is **nine years old** on average, higher than the age of first internet use. So, **children start using the internet before they are given a mobile phone**. The age when children first received a mobile phone varies less across countries and is not structured by gender. However, the age of getting the first mobile phone increases with age: children who are aged 9-10 were given a phone when they were eight; at the opposite end of the scale, teenagers aged 15-16 were ten when they first got a mobile phone.
- **The average age at which children receive a smartphone is older, at twelve years old.** Similar to mobile phones, ownership of smartphones is differentiated by age more than by country and not influenced by gender. Age patterns are indeed similar to those observed regarding mobile phones: younger children are more likely to be given a smartphone when they are only eight, while older teenagers were aged 14 when they got their first smartphone.
- This suggests that 2011 is a turning point: **after 2011 children of all age groups are more likely to be given a smartphone** than an ordinary mobile phone. Indeed, **15% of our interviewees had never owned a mobile phone that was not a smartphone**.

Figure 4 summarises the average age of adoption of the internet, mobile phones and smartphones across different age groups, showing that **children are using the internet and getting a mobile phone or a smartphone at ever younger ages**.

Figure 4: Age of first internet use, first mobile phone and first smartphone, by age



Q5: How old were you when you first used the internet?

Q6: How old were you when you got your first mobile phone (a phone which is not a smartphone)?

Q7: How old were you when you got your first smartphone?

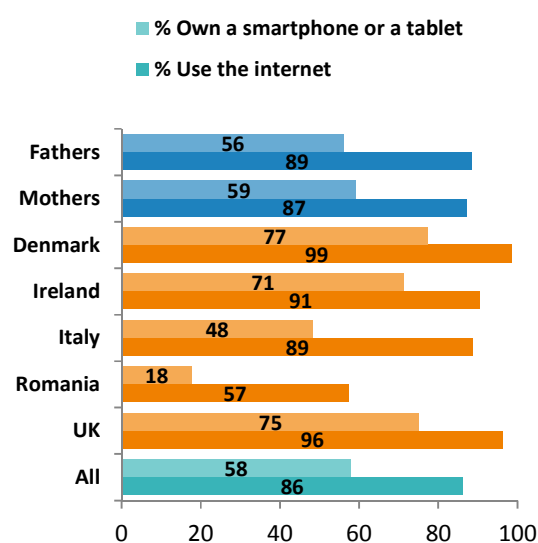
Base: All children who use the internet.

## 2.5 Parental uses of the internet, smartphones and tablets

Figure 5 shows the percentage of parents in the sample who say that they are internet users, and the percentage of parents who say that they personally own a smartphone or a tablet PC that they use to access the internet.

- On average, 86% of parents of children who are internet users in the five countries that we surveyed say that they themselves are internet users. There is no difference between fathers and mothers in this respect. There are, however, substantial country differences, with parents in Romania less likely than parents in the other four countries to say that they use the internet.
- Use of mobile devices is also different by country, with Romanian parents being much less likely than parents in the other four countries to say that they own a smartphone or a tablet PC that they use to connect to the internet.

Figure 5: Parents' internet use and ownership of mobile devices



P2: Do you personally use the internet?

P3: Do you personally own a smartphone or a tablet PC that you use to connect to the internet?

Base: Parents of children who use the internet.

Table 9 shows the percentage of children who own or have for their own use a range of devices, by their parents' internet use and ownership of mobile devices (smartphones or tablet PCs).

- To some extent the differences in the ownership of devices among children whose parents are internet and/or smartphone users and those whose parents are non-users can be understood as country differences, since most of the parents who don't use the internet or own a smartphone or a tablet are located in Romania.
- If a child has parents who are not internet users, they are more likely to say that they use a desktop computer to go online, while a child whose parents use the internet and a smartphone is more likely to own a laptop computer and a smartphone. This finding might suggest that parents who are non-users and thus perhaps, more likely to be digitally illiterate, are less interested in investing in new technological equipment. But it may also point to economic inequalities - whereby non-users are more likely to belong to less advantaged social groups - as well as to different stages of diffusion of ICTs in different societies.

**Table 9: Children's ownership of devices, by parent's internet use and ownership of mobile devices**

% child owns or has for his/her own use...	Is parent an internet user?		Does parent own a mobile device?	
	Yes	No	Yes	No
Desktop computer (PC)	25	52	18	43
Laptop computer	45	31	48	36
Mobile phone	28	43	25	37
Smartphone	54	30	62	36
Tablet	22	8	26	11
E-book reader	9	1	10	5
Other handheld devices	14	4	18	6
Home games consoles	39	18	44	25

Q3 a-h: Do you personally own or have for your private use any of these devices? (By private use of a device we mean a device that only you use.)

P2: Do you personally use the internet?

P3: Do you personally own a smartphone or a tablet PC that you use to connect to the internet?

Base: All children who use the internet and one of their parents.

### 3. Online activities

Previous research has shown that the range of online activities that children take up varies by age – following a progression from basic uses such as gaming and school-related searches to creative and participatory uses of the internet, such as maintaining a blog, creating and sharing content, etc. (Livingstone & Helsper, 2007; Livingstone *et al.*, 2011).

The EU Kids Online data have also shown that online activities are not completely beneficial or risky, and that children who take up a wider range of online activities are usually exposed to more risks, but are also better equipped to cope with those risks, thus experiencing less harm (Livingstone, Hasebrink & Görzig, 2012).

Drawing on these premises, we map children's online activities for three main reasons:

- to understand whether and how the range of online activities varies with mobile-convergent media and 'anywhere, anytime' connectivity;
- to map children's progression – and any relevant changes – on the 'ladder of opportunities' (Livingstone & Helsper, 2007);
- to assess whether and to what extent changes on the level of opportunities relate to variations in the experiences of risk and harm.

#### 3.1 Types of online activities

Table 10 shows how many children do each of a range of activities when they go online from any device, by age and gender.

Table 10: Daily online activities (all types of access), by age and gender

	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
Who have daily... Listened to music...	39	37	69	74	56
Watched video clips (e.g. on YouTube, iTunes, Vimeo, etc.)	45	34	66	73	55
Visited a social networking profile	29	27	76	81	54
Used instant messaging	21	25	59	63	43
Checked information to satisfy a curiosity	21	16	43	49	33
Used the internet for schoolwork	20	18	39	49	32
Played games on own or against the computer	38	23	46	17	31
Played games with other people online	30	16	48	17	28
Watched broadcast television/movie online	17	14	34	32	25
Downloaded music or films	13	8	27	36	22
Downloaded free Apps	13	12	30	29	21
Published photos, videos or music to share with others	7	11	22	35	19
Visited a chatroom	10	6	19	23	15
Read/watched the news on the internet	8	3	19	28	15
Published a message on a website or a blog	5	6	17	26	14
Registered their geographical location	6	5	14	17	11
Used file-sharing sites	3	5	12	15	9
Used a webcam	4	6	7	16	8
Spent time in a virtual world	7	5	11	6	7
Looked up maps/ timetables	4	5	9	9	7
Read an e-book	4	1	2	9	4
Created a character, pet or avatar	3	4	6	3	4
Bought things online	1	1	4	3	2
Purchased apps	1	0	3	4	2
Read QR codes/scan barcodes	0	0	1	2	1

Q9a-d, 10a-e, 11a-e, 12a-k: For each of the things I read out, please tell me how often you have done it in the past month.  
Base: All children who use the internet.

- **Listening to music and watching video clips tops the list of activities** done on a daily basis, followed by **social networking**. Other social activities also rate fairly high, such as using **Skype or WhatsApp**.
- Other activities such as **schoolwork, searching for information** to satisfy a curiosity, **playing games** (alone or in multiplayer games) and **watching television or movies** on the internet are part of the daily media diets of around one in three children.
- Activities that are typical of, although not exclusive to, mobile-convergent media such as downloading free apps (21%) or locating themselves in places (11%), purchasing apps (2%) or reading QR codes (1%), are practised on a daily basis by only a minority of children.
- All the activities asked about **increase with age, except gaming**, which is still a highly gendered activity: so, if older boys engage more in online games and multiplayer gaming environments than younger boys, younger girls play more online games than teenage girls.
- **The range and kind of activities taken up is also different by gender**: overall girls (especially teenage girls) tend to engage more in communication practices than boys, while boys play more, as anticipated.
- However, **gender variations combine with age differences and tend to be greater among younger children**: younger boys take up more of each of the activities asked about except instant messaging (25% of younger girls do it daily versus 21% of boys), and, to a minor extent, uploading photos, pictures or videos to share with others (11% versus 7%).

Table 11 compares a number of activities done by respondents at least once in the past month in 2013 and 2010 (EU Kids Online survey data for the

five countries).

**Table 11: Online activities done at least once in the past month**

% who...	2010 (five countries)	2013
Watched video clips (e.g. on YouTube, iTunes, Vimeo, etc.)	81	86
Used the internet for schoolwork	79	80
Visited a social networking profile	65	70
Played games on own or against the computer	83	66
Used instant messaging	65	59
Played games with other people on the internet	48	50
Published photos, videos or music to share with others	41	49
Downloaded music or films	47	47
Read/watched the news on the internet	43	33
Published a message on a website or a blog	31	32
Used a webcam	30	27

Q9a-d, 10a-e, 11a-e, 12a-k: For each of the things I read out, please tell me how often you have done it in the past month.

EU Kids Online QC102: How often have you played internet games in the past 12 months? QC306a-d, QC308a-f and QC311a-f: Which of the following things have you done in the past month on the internet? (Multiple responses allowed.)

Base: All children who use the internet.

- Table 11 shows that **social networking, sharing and entertainment activities have increased** substantially from 2010 to 2013.
- More specifically, uploading photos, videos or music to share with others is the online activity that shows the highest rate of growth, followed by visiting a profile on a SNS, watching video clips on video sharing platforms and playing in multi-players' online environments.
- By contrast, **playing games alone or against the computer, reading or watching the news and instant messaging are decreasing**. Using the internet for schoolwork, downloading movies or music and publishing a comment on a blog or forum haven't changed much.

## 3.2. Smartphone users

In order to grasp the consequences of mobile internet devices on the mix of daily online activities, Table 12 compares smartphone and non-smartphone users, divided into two age groups.

- The percentage of children taking up an activity on a daily basis is higher among smartphone users of both age groups for each of the activities asked about. This suggests that on a daily basis, **smartphone users engage more in each of the online activities** measured.
- **The greatest differences are to be found in communication practices** (visiting a profile on a SNS is practised every day by 51% and 89% of smartphone users aged 9-12 and 13-16 respectively; instant messaging by 43% and 76% of younger and older children who use a smartphone), **and in entertainment activities** (listening to music and watching video clips). However, children who use a smartphone are also more likely to **use the internet for schoolwork** on a daily basis (31% and 53% of smartphone users versus 14% and 32% of non-smartphone users).
- Not surprisingly, children who use a smartphone to go online also engage more in activities usually associated with mobile-convergent media such as downloading free apps (27% and 41% of smartphone users versus 7% and 12% of non-users) or registering their position through geolocating systems (12% and 17% of smartphone users versus 3% and 9% of non-users). Nonetheless, **the use of location-tracking services is low even among smartphone users**.

Table 12: Daily online activities, by age and by whether child uses a smartphone or not

% who have daily...	9-12 years		13-16 years		All* (users and non-users)
	Non-user	S-ph user	Non-user	S-ph user	
Listened to music	30	59	54	82	55
Watched video clips	33	55	57	77	55
Visited a social networking profile	18	51	62	89	54
Used instant messaging	15	43	37	76	43
Checked information to satisfy a curiosity	15	28	34	54	33
Used the internet for schoolwork	14	31	32	53	32
Played games on own or against the computer	26	41	27	34	31
Played games with other people online	17	39	26	37	28
Watched broadcast television/movie online	11	28	20	42	25
Downloaded music or films	8	15	19	39	21
Downloaded free Apps	7	27	12	41	21
Published photos, videos or music to share with others	6	17	18	36	19
Visited a chatroom	5	16	15	25	14
Read/watched the news on the internet	5	7	16	28	15
Published a message on a website or a blog	4	10	11	28	14
Registered their geographical location	3	12	12	17	10
Used file-sharing sites	2	10	5	20	9
Used a webcam	3	10	9	13	8
Spent time in a virtual world	4	11	7	9	7
Looked up maps/timetables	4	5	7	11	7
Read an e-book	1	6	2	7	4
Created a character, pet or avatar	3	5	2	6	4
Bought things online	0	3	1	5	2
Purchased apps	0	1	1	6	2
Read QR codes/scan barcodes	0	1	1	1	1

Q9a-d, 10a-e, 11a-e, 12a-k: For each of the things I read out, please tell me how often you have done it in the past month.  
Base: All children who use the internet.

\* The 'All' values here refer to the average number of children



who are internet users and do a certain activity on a daily basis (as shown in Table 10).

However, although smartphone use is associated with higher percentages of children doing each of the activities asked about on a daily basis, **we cannot assume a causal relationship between smartphone use and online activities** at this stage of the analysis: it may well be that children who were already using the internet more and for a wider range of activities are more likely to be given a smartphone. Moreover, we cannot take it for granted that children who are smartphone users practise these activities mostly, if not exclusively, on the smartphones they own or use.

What we can conclude so far is that children who also use a smartphone to go online are more likely to take up online activities on a daily basis, and have thus incorporated the internet more thoroughly into their everyday lives. In other words, **the ‘anywhere, anytime’ connectivity and the privacy afforded by smartphones is associated with the intensity and the quality of young people’s online experiences.**

### 3.3 Tablet users

Table 13 compares the online activities of tablet users and non-users, divided into two age groups.

**Table 13: Daily online activities, by age and by whether child uses a tablet or not**

% who have daily...	9-12 years		13-16 years		All* (users and non-users)
	Non-user	Tablet user	Non-user	Tablet user	
Listened to music	33	54	66	82	55
Watched video clips	35	52	65	77	55
Visited a social networking profile	24	38	72	90	54
Used instant messaging	18	38	49	82	42
Checked information to satisfy a curiosity	15	29	41	57	33
Used the internet for schoolwork	17	26	39	55	32
Played games on own or against the computer	28	40	28	39	31
Played games with other people online	21	29	29	40	28
Watched broadcast television/movie online	14	20	26	46	24
Downloaded music or films	10	10	25	43	21
Downloaded free Apps	10	23	20	47	21
Published photos, videos or music to share with others	8	12	18	50	19
Visited a chatroom	6	13	12	37	14
Read/watched the news on the internet	5	6	19	32	15
Published a message on a website or a blog	5	8	15	34	14
Registered their geographical location	4	9	13	20	10
Used file-sharing sites	3	10	9	21	9
Used a webcam	4	7	8	16	8
Spent time in a virtual world	5	11	8	10	7
Looked up maps/timetables	3	7	7	13	7
Read an e-book	2	4	2	10	4
Created a character, pet or avatar	3	4	3	9	4
Bought things online	0	3	3	4	2
Purchased apps	0	1	2	7	2
Read QR codes/scan barcodes	0	1	1	2	1

Q9a-d, 10a-e, 11a-e, 12a-k: For each of the things I read out, please tell me how often you have done it in the past month.  
Base: All children who use the internet.

\* The 'All' values here refer to the average number of children who are internet users and do a certain activity on a daily basis (as shown in Table 10).



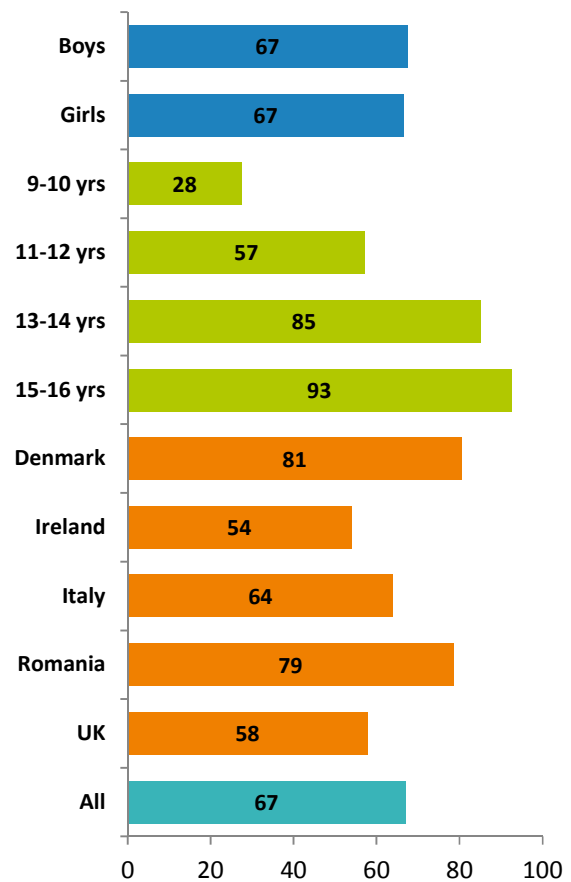
When looking at the use of tablets, the correlation between going online from a tablet computer and the increase in the daily rate of online activities is less straightforward, and **differentiated by age**.

- **Older children who use a tablet to go online are more likely to engage more in each of the activities considered**, although the gap between users and non-users is lower than the divide between users and non-users of smartphones. Overall, the activities that tablet users do more than non-users are communication and entertainment.
- **Among younger children, the difference between tablet users and non-user is more pronounced in communication and entertainment activities**: 38% of children aged 9-12 who are tablet users visit a profile on a SNS on a daily basis (versus 24% of non-users); 38% of younger tablet users use instant messaging everyday (versus 18% of non-users); 54% listen to music and 52% watch video clips online (versus 33% and 35% of non-users); 40% play games alone or against the computer (versus 28% of non-users) and 28% play in multiplayer online environments (vs. 28% of non-users).
- Although many schools across Europe are experimenting with the use of tablets in class, **the use of tablets to go online is associated with a smaller increase in the overall use of the internet for schoolwork than the use of smartphones** (see Table 12).

### 3.4 Social networking and media sharing platforms

We have seen that social networking tops the activities taken up by children on a daily basis, and that children who also use a smartphone and a tablet to go online are more likely to engage in activities on a SNS every day. Figure 6 shows the number of children who have one or more profiles on SNS.

Figure 6: Children (%) with a SNS profile, by gender, age and country



Q16 a-f: Do you have your own profile on a SNS (e.g. Facebook, Twitter, etc.) that you currently use and if you have a profile/account, do you have just one or more than one?

Base: All children who use the internet.

- Overall, **67% of children have at least one profile on a SNS**.
- **The use of SNS varies consistently by age**. While just one third of children aged 9-10 have a profile on a SNS, this percentage rises to over 90% of older teenagers. The 57% of children aged 11-12 on SNS is also noteworthy, since most social networking platforms have age limits that are not being followed.
- **Country differences** also matter: despite being very different in terms of both places and devices for internet access, **Denmark and Romania top the list, with around 80% of children who have a profile on a SNS**. These

services are less popular in Italy (64%), the UK (58%) and in Ireland (54%).

- If we **compare** the data **with the 2010 EU Kids Online data** regarding the five countries, overall, **the average use of SNS has increased from 61% to 67%**. However, the rate of this growth is uneven across countries: while social networking has been growing in Denmark, Italy and Romania – and it has passed **from 46% to 79% in Romania** – it has **decreased in the UK (from 67% to 58% of children)** and **Ireland (from 59% to 54%)**.

**The lower diffusion of social networking in Ireland, Italy and the UK is due to lower rates of under-age use** in these countries (see Table 14). This finding suggests that awareness campaigns against under-age use of SNS have been more effective in these countries, and that parents are more likely to set rules on social networking. This conclusion is consistent with the new country classification by EU Kids Online (Helsper *et al.*, 2013), according to which Ireland, Italy and the UK belong to the category of countries where children are **protected by restrictions**.

**Table 14: Children with a profile on SNS, by country and by age**

%	9-10 years	11-12 years	13-14 years	15-16 years
Denmark	41	81	98	99
Ireland	14	39	83	91
Italy	15	52	90	93
Romania	50	80	86	92
UK	19	35	73	88
All	28	57	85	93

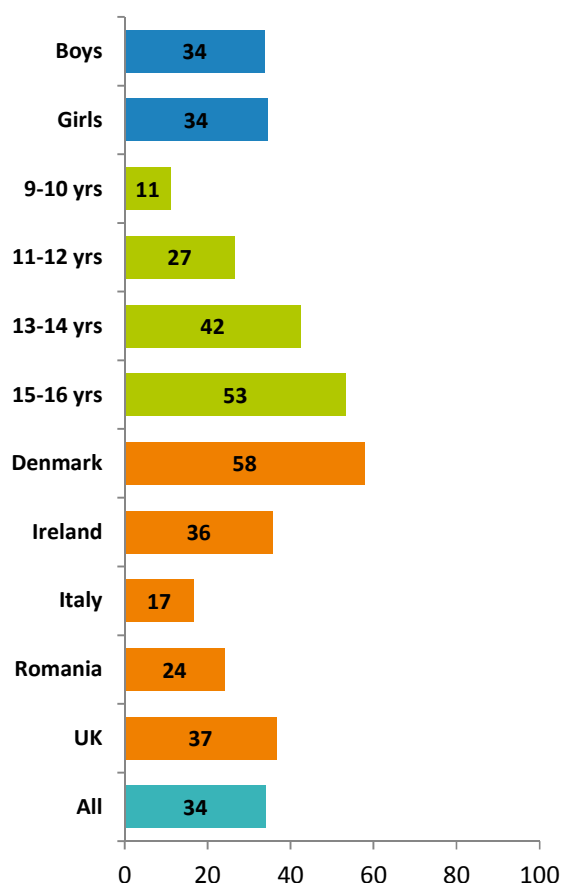
Q16 a-f: Do you have your own profile on a SNS (e.g. Facebook, Twitter, etc.) that you currently use and if you have a profile/account, do you have just one or more than one?

Base: All children who use the internet.

Since, as we have seen, sharing photos, videos and other content is one of the most popular online activities, which has increased since 2010, we also asked children if they have a profile on a media sharing platform such as YouTube, Instagram or

Flickr. Figure 7 shows the number of children having an account on one of these platforms, by gender, age and country.

**Figure 7: Children (%) with a profile on a media sharing platform, by gender, age and country**



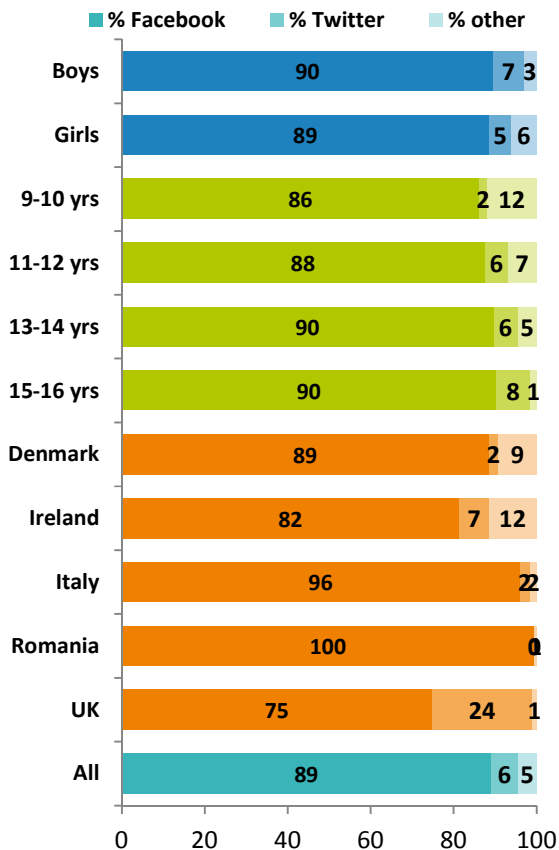
Q23 a-f: Do you have your own profile/account on a media sharing platform (photo and video) such as YouTube, Instagram, Flickr, that you currently use, and if you have a profile/account, do you have just one or more than one?

Base: All children who use the internet.

- While it is equally common among boys and girls, the probability of **having an account on media sharing platforms varies consistently by age and across countries**. Just 11% of children aged 9-10 report having a profile on one of these services, a number that rises to more than half of teenagers aged 15-16.
- Country differences are even more striking, with more than half the Danish children having their own accounts on media sharing platforms, and just 17% of Italian youth doing so.

Analysing which are the most popular SNS and media sharing platforms across gender, age groups and countries is also interesting. Figure 8 shows which SNS children use most, by gender, age and country.

**Figure 8: Which social networking profile is the one children use most, by gender, age and country**



Q17: What social network is the profile/account that you use the most on?

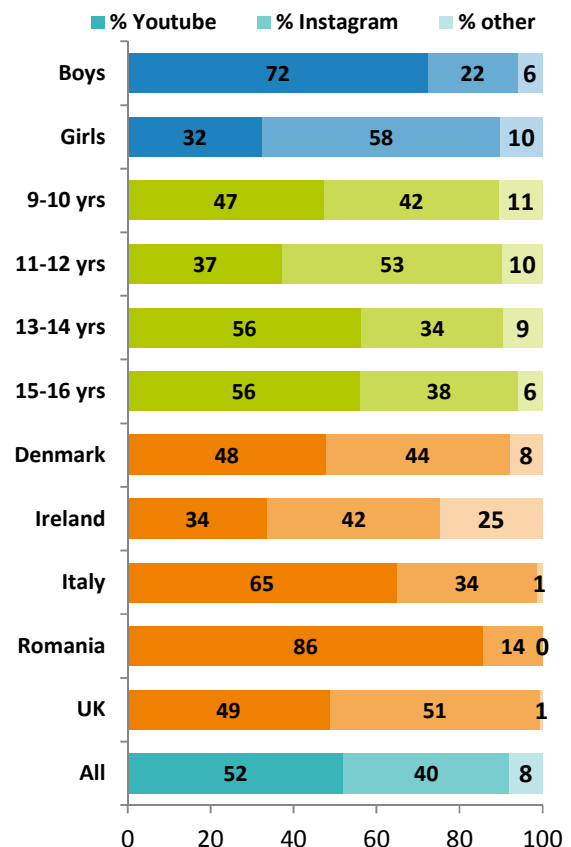
Base: All children who use SNS.

- Facebook is still the SNS that children are most likely to use, with small variations by age and gender.
- Country differences are more consistent: while it is still the most popular SNS in the countries surveyed, **all respondents in Romania indicated Facebook as the SNS they use most**, while just three out of four of UK children did so. The **UK** is an interesting case because **one in four children also said the profile they used the most was on Twitter**.

- The popularity of **Twitter** varies by gender, age and country, and is **higher among boys, teenagers and UK children**.
- If we compare these findings with the EU Kids Online 2010 survey, we can see that Facebook has grown considerably in Romania (where in 2010 just 25% of children indicated it as the profile they used most), it has registered a smaller increase in Denmark (from 85% to 89%) and Italy (from 94% to 96%), while it has decreased in the UK (from 87% to 75%).

Figure 9 shows which media sharing platform is the account children are most likely to use, by gender, age and country.

**Figure 9: Which media sharing platform is the account children use most, by gender, age and country**



Q24: What media sharing platform is the profile/account that you use the most on?

Base: All children who use media sharing platforms.

- Contrary to SNS, where Facebook dominates, among media sharing platforms there is not a single platform that dominates: **52%** of the respondents who have an account on media sharing platforms indicate **YouTube as the account they are most likely to use**, and **40%** say they use **Instagram** most.
- Having a profile on media sharing platforms is strongly differentiated by gender: while three out of four **boys are more likely to use YouTube**, nearly 60% of **girls** say they use **Instagram** most.
- Age differences are less linear and clear-cut: Instagram is seemingly more popular than YouTube among children aged 11-12, while in the other age groups, YouTube is still the platform children use most. Findings from the qualitative research confirm that younger children are more likely to be using Instagram, especially in countries where their parents don't allow them to be on Facebook before they are 13.
- With respect to country differences, the majority of **Romanian children are most likely to use YouTube**; YouTube is also still the most popular media sharing platform in **Italy**, where **one in three children use Instagram** most. Young **Danes** use **Instagram nearly as much as YouTube**, while **in Ireland and the UK, Instagram is more popular than YouTube**.
- Preliminary findings from focus groups and interviews indicate, however, that YouTube and Instagram are attributed different meanings and functions by children: while Instagram is more perceived as an SNS - especially by children who are not allowed to have a profile on Facebook or Twitter - YouTube is used mainly to create playlist of favourite (music) videos.

## 4. Communication practices

Online communication – more specifically, social networking and instant messaging – is on the rise among children and adolescents. Staying in touch with friends represents a great part of youth's online daily activities, as we have seen in Chapter 3. Moreover, prior research has shown that social access to peers is also the primary motivation for adopting mobile communication, at least among teenagers (Lenhart *et al.*, 2010; Ling & Bertel, 2013).

What happens when access to SNS and instant messaging services is provided on mobile phones, and then, always at hand? The potential for **'anywhere, anytime' access to peers and online contacts** has renewed public concerns over SNS, such as popular anxieties regarding the fragile balance between privacy and intimacy, as well as contact with people met online. Moreover, smartphones expand the range of mobile communicative practices and the type of audiences children are now able to engage with (Bertel & Stald, 2013). New questions emerge, then, regarding the changing role of the mobile phone and the potential reconfiguration of communicative practices: can the mobile phone still be considered as the tool for accessing 'the full-time intimate sphere' (Ling, 2008; Matsuda, 2005)?

While, as we have seen, **Facebook is still** being reported by the majority of respondents as **the most used SNS**,<sup>6</sup> nonetheless we recognise that **the use of social media is diversifying** – children simultaneously use various services, each enabling specific practices and targeted at a specific audience – and that different SNS may imply different notions of 'friendship' and different regimes of privacy and disclosure. Furthermore, we

rely on the notion of a **'communication repertoire'** (Haddon, 2004), and assume that children, just like adults, develop sophisticated repertoires of practices, devices and services from which they choose what best suits the particular communicative situation and relationship. Rather than replacing one SNS with another, children combine and integrate them with other communicative practices.

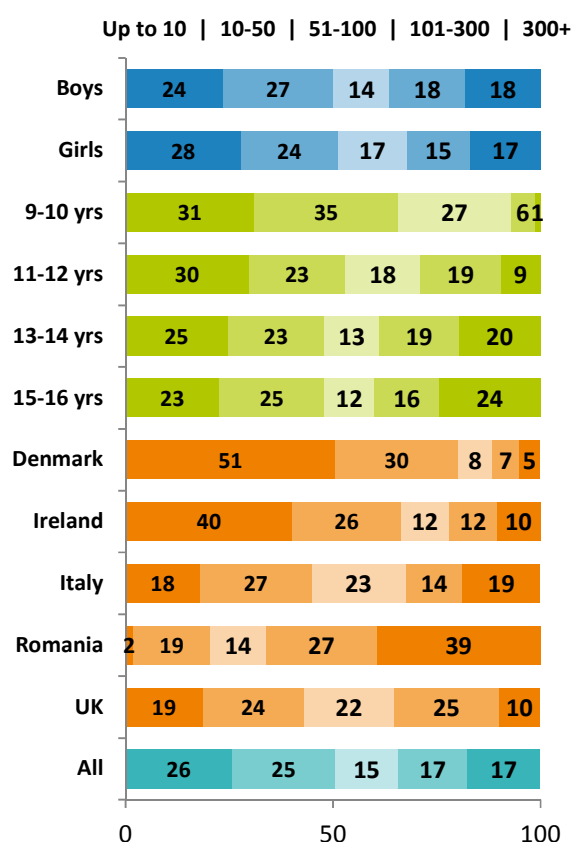
This chapter aims at providing a clearer picture of children's communicative practices by examining, first, SNS use, and more specifically, the number of friends they are in contact with, the management of 'friend' requests, privacy settings and personal information provided on their profiles. Different practices on different SNS – for example, different privacy settings – are highlighted when relevant. In order to grasp the complexity of children's communication repertoires, we then examine the preferred channels children use when communicating with parents, friends, siblings, other relatives, online contacts, teachers and others.

### 4.1 Nature of children's SNS contacts

The number of contacts on SNS is often assumed as an indicator of risky behaviour. However, as Figure 10 shows, the risk that children are getting in touch with ever-larger social circles is overstated.

<sup>6</sup> Contrary to the huge debate on the death of Facebook which arose from the misinterpretation of the findings of the Global Social Media Impact Study (<http://gsmis.org/>) on media coverage.

Figure 10: Number of contacts on SNS, by gender, age and country



Q18: Roughly how many people are you in contact with when using [SNS profile that is used the most]?

Base: All children who use SNS.

- **One in four children are in touch with 10 or less people on SNS, and half (51%) have fewer than 50 contacts.** The proportion of children who have small circles of friends on the internet varies by age and gender, and is higher among girls and younger children (52% of girls and 66% of 9- to 10-year-olds have less than 50 contacts on SNS).
- **17% of children have more than 300 contacts:** this number rises to one in four teenagers aged 15-16, while it makes up just 1% of 9- to 10-year-olds.
- A further 17% have between 100 and 300 contacts. Therefore, **one in three children have more than 100 contacts**, with huge variations across age and gender: this group varies from 7% of younger children to 40% of

older teenagers and is more consistent among boys (36%) than girls (32%).

- **The number of contacts varies considerably by country:** while over half of Danish children and 40% of their Irish peers have less than 10 contacts, just 2% of Romanian children belong to this category. Conversely, the number of children with more than 100 contacts is higher in Romania (66%) and lower in Ireland (22%) and Denmark (12%). Italy and the UK follow similar patterns, with 45% and 43% of children being in contact with up to 50 people, and one in three having more than 100 contacts.
- If we relate these data to under-age use of SNS (see Table 14), we can observe **three main patterns**. In Denmark under-age use of SNS is high (61% of 9- to 12-year-olds have at least one profile on a SNS), but the average number of contacts is also low (81% have less than 50 contacts); **being under-age and having up to 10 contacts** could also be a common strategic use of SNS common **preventive measure** in other **‘supported risky explorers’ countries**, as classified in the EU Kids Online country classification (Helsper et al., 2013). Conversely, in countries such as Ireland, Italy and the UK, belonging to the **‘protected by restrictions’** group of countries (*ibidem*),<sup>7</sup> **under-age use is low**, and the proportion of **children with more than 100 contacts** is also **low or average**, varying from 22% in Ireland to 35% in the UK. Finally, **Romania** shows a different pattern: while **under-age use** has more than **doubled in the past three years** (from 29% of 9- to 12-year-olds in the EU Kids Online survey to 65% in 2013), **the number of children with over 100 contacts** has also **increased dramatically** (from 8% to 66%).

<sup>7</sup> For a definition of 'supported risky explores' and protected by restrictions countries see par. 1.3 in the Introduction

Table 15 shows the variation in the width of online circles of friends by type of SNS.

**Table 15: Number of contacts on SNS, by name of profile that is used the most**

%	Facebook	Twitter	Other
Up to 10	23	39	52
11-50	25	32	26
51-100	15	14	14
101-300	18	7	6
More than 300	19	7	3

Q18: Roughly how many people are you in contact with when using [SNS profile that is used the most]?

Base: All children who use SNS.

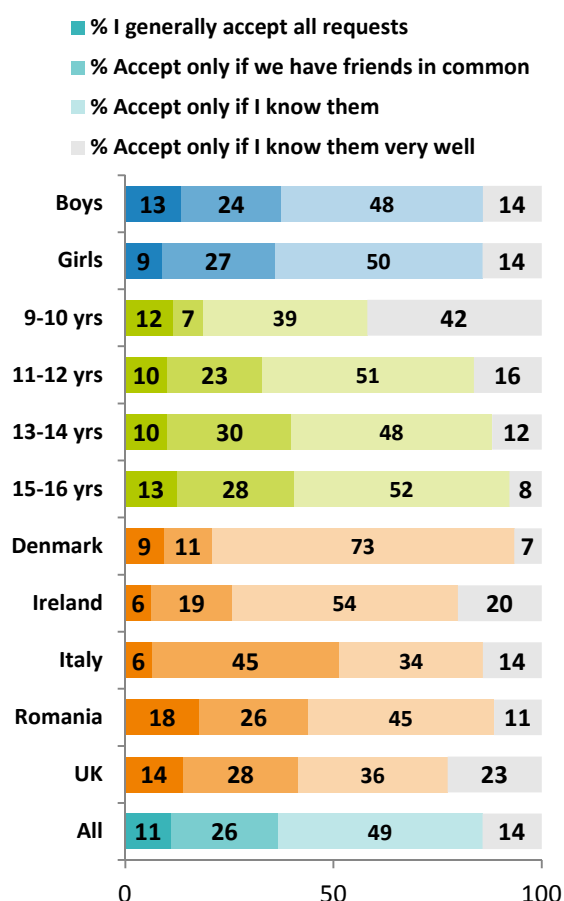
The proportion of children with up to 10 contacts is slightly below average among Facebook users, and above average among children who primarily use Twitter or other SNS. While this might well signal different behaviours and different notions of friendship on different SNS, we cannot underplay the effect of age and country variation, so we have to bear in mind that Twitter is reported as the most used SNS mainly in the UK, and that younger children – who are more likely to report having a profile on different platforms such as Moviestar Planet – are also more likely to have fewer friends, as we have seen. Moreover, all the Romanian children reported Facebook as their primary SNS, and, as we have just seen, are more likely to build wider social circles online.

The number of online contacts is also the outcome of different norms of ‘friending’, as shown in Figure 11:

- **Two out of three children add new contacts when they know them (49%) or know them very well (14%),** one in four accepts requests from people with whom they share friends in common, while **just 11% accept all requests.**
- Gender differences are not pronounced: while girls are slightly less likely to accept all requests, they tend to be more inclined to add people with whom they share connections.

- The response to people adding them on SNS varies more consistently across age group: while in all groups the majority of children add only people they know or know very well, this varies from 71% of 9- to 10-year-olds to 60% of teenagers aged 13-16.

**Figure 11: Children’s responses to friends’ requests on SNS, by gender, age and country**



Q22: How do you generally respond to requests from people to become your ‘friends’ on [SNS profile that is used the most]?

Base: All children who use SNS.

Country variations show interesting patterns: while the number of children who generally accept all requests is highest in Romania (18%) and lowest in Italy and Ireland (6%), the proportion of children who ‘friend’ only people they know or know very well is the highest in Denmark (80%) and lowest in Italy (48%). An equally consistent number of Italian children (48%) accept requests from people with whom they share contacts. In other words, Italian children are more likely than children in other countries to expand their online networks by activating ‘latent ties’. Conversely, although

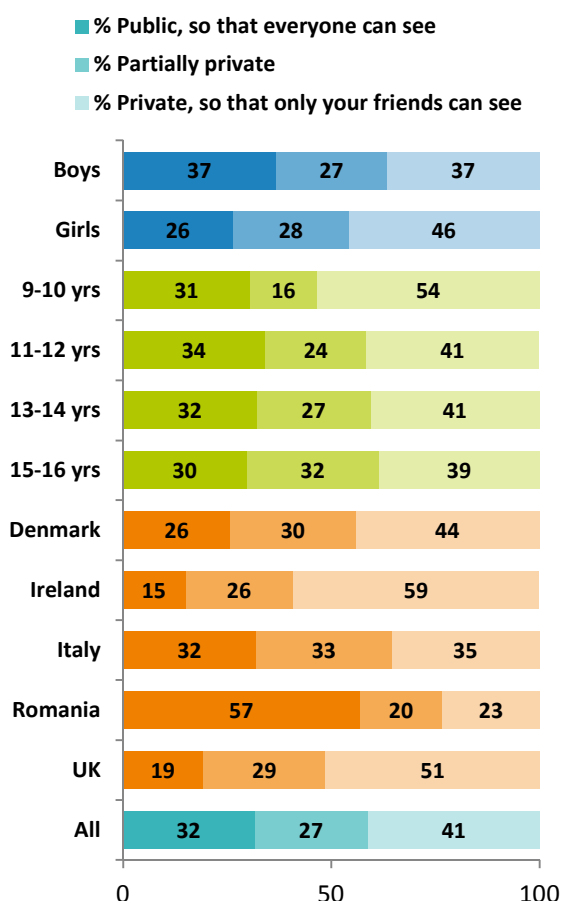


Romanian children are more likely to have a larger number of contacts on Facebook, more than half (56%) prefer to add people they already know. Danish and Irish children, instead, tend to have smaller circles of friends on the internet, which predominantly consists of people they know.

## 4.2 SNS privacy settings

Figure 12 shows how privacy settings vary by gender, age and across countries.

**Figure 12: Whether SNS profile is public or private, by gender, age and country**



Q20: Is your profile set to...?

Base: All children who use SNS.

- While **41% of SNS users keep their profile private**, and a further 27% keep it partially private (e.g. also disclosing some information to friends of friends and networks), **one in three children report having a public profile**.

- Variations by gender are consistent, with **girls being more likely to have a private profile**.
- In terms of age differences, while the proportion of children with a public profile remains somewhat stable across the four age groups, **over half of children aged 9-10 have set their profile as private**. Conversely, the number of children who keep their profiles as partially private is higher in adolescence, when children are supposedly more skilled in setting different levels of privacy.
- Country differences are pronounced: more than half the children in Ireland and the UK have a private profile. Around 70% of children in Denmark (74%) and Italy (68%) have a private or partially private profile. Conversely, **57% of Romanian children** report having set their profiles as **public**. Different privacy settings may not necessarily be an indicator of risky behaviour, and also have to be contextualised within 'friending' practices and number of online contacts. So, while Romanian children are more likely than peers in other countries to have public profiles and over 300 contacts on Facebook, half of them respond to 'friendship requests' by adding just people they know, or know very well.

Table 16 shows the distribution of different privacy settings across different social networks, suggesting that, as for the number of online contacts, different platforms have diverse social and technological affordances that result in slightly different choices.



**Table 16: Whether SNS profile is public or private, by name of profile that is used the most**

% of children who set their profile as...	Facebook	Twitter Twitter	Other
Public, so that everyone can see	32	28	32
Partially private, so that friends of friends on your network can see	28	23	25
Private, so that only your friends can see	41	49	44

Q20: Is your profile set to...?

Base: All children who use SNS.

Whether it matters that children's profiles are set to public or private depends not only on 'friending' habits, but also on the identifying information they post on their profile. Table 17 shows what kind of personal information children are likely to share on their SNS profiles:

**Table 17: What information children show on their social networking profile, by age and gender**

% who say that their SNS profile shows...	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
A photo that clearly shows their face	71	73	81	90	81
Their last name	81	77	82	82	81
Their home address	17	15	14	13	14
Their phone number	13	14	18	9	14
Their school	46	54	70	69	64
An age that is not their correct age	60	62	27	24	37

Q21: Which of the bits of information on this card does your profile/account include about you?

Base: All children who use SNS.

- **The majority of children include their surname and a photo showing their face** on their profiles, with small variation across age groups and gender: younger children are generally slightly more reluctant to share a picture of their face, while teenage girls are more likely to do so.

- **One in three children display the name of the school** they attend, but this behaviour varies substantially by age, with teenagers more likely to do so.
- **Nine out of ten children** across all age groups and gender **do not share their phone number and home address**. Teenage girls seem slightly more sensitive to disclosing this kind of information.
- **One in three children display an incorrect age** on their profile. Not surprisingly, more younger children than teenagers include an age that is not correct, often to circumvent the age limits. More surprising is that one in four children who are over 13, and therefore allowed to have a profile on SNS, tend to do so.

## 4.3 Different media for different contacts

To investigate how children develop complex communication repertoires, in which they incorporate different platforms and channels of communication, we asked them how often they are likely to communicate with specific others through a set of platforms or channels. Table 18 shows how children communicate with their parents.

**Table 18: Ways of being in contact with parents**

% of children in contact with parents by...	Several times each day	Daily or almost daily	At least every week	Never or almost never
Talking on a mobile or smartphone	21	38	23	18
Sending SMS or MMS	11	26	26	37
Sending emails	1	1	4	94
Contact on SNS	2	8	14	76

Q13, Q14, Q15, Q19: How often are you in contact with the following people by talking on the mobile phone/smartphone, by sending SMS/text or multimedia messages (MMS) with pictures or videos from your mobile phone/smartphone, by sending email, on all the SNS you use?

Base: All children who use each means of communication.

- **The mobile phone is still the preferred medium to be in touch with parents:** 59% report talking to their parents daily or almost daily, with 21% doing so more than once a day; 37% also exchange SMS with their parents on a regular basis.

Table 19 shows ways of communicating with friends:

**Table 19: Ways of being in contact with friends**

% of children in contact with friends by...	Several times each day	Daily or almost daily	At least every week	Never or almost never
Talking on a mobile or smartphone	29	32	19	19
Sending SMS or MMS	31	32	16	22
Sending emails	2	6	16	76
Contact on SNS	36	39	18	6

Q13, Q14, Q15, Q19: How often are you in contact with the following people by talking on the mobile phone/smartphone, by sending SMS/text or multimedia messages (MMS) with pictures or videos from your mobile phone/smartphone, by sending email, on all the SNS you use?

Base: All children who use each means of communication at all.

- While mobile communication is still a relevant mode of contact among friends, SNS are the most used platform: **one in three children keep in touch with friends on SNS several times a day.** Overall, 75% use SNS to communicate with friends daily or almost daily.
- However, **SNS have not replaced mobile communication:** two out of three children regularly use texts to keep in touch with friends, while 61% call them daily or almost daily.

As shown in Table 20, contact with siblings is less regular and mainly carried out through phone calls or SMS:

**Table 20: Ways of being in contact with siblings**

% of children in contact with siblings by...	Several times each day	Daily or almost daily	At least every week	Never or almost never
Talking on a mobile or smartphone	7	19	23	52
Sending SMS or MMS	5	16	20	59
Sending emails	1	1	3	96
Contact on SNS	2	9	22	66

Q13, Q14, Q15, Q19: How often are you in contact with the following people by talking on the mobile phone/smartphone, by sending SMS/text or multimedia messages (MMS) with pictures or videos from your mobile phone/smartphone, by sending email, on all the SNS you use?

Base: All children who use each means of communication.

Table 21 shows how children keep in touch with people met online who they have never met before:

**Table 21: Ways of being in contact with people met online**

% of children in contact with people met online by...	Several times each day	Daily or almost daily	At least every week	Never or almost never
Talking on a mobile or smartphone	2	4	10	84
Sending SMS or MMS	2	3	6	89
Sending emails	1	1	4	94
Contact on SNS	4	9	15	72

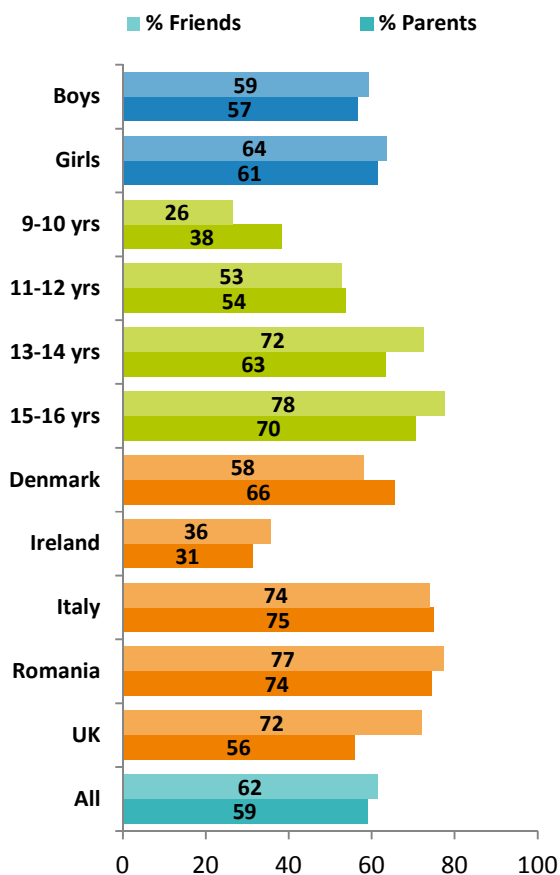
Q13, Q14, Q15, Q19: How often are you in contact with the following people by talking on the mobile phone/smartphone, by sending SMS/text or multimedia messages (MMS) with pictures or videos from your mobile phone/smartphone, by sending email, on all the SNS you use?

Base: All children who use each means of communication.

- While contact with people met online is sporadic, **28% of children communicate with online contacts on SNS at least every week**, 16% call them on their mobiles at least weekly, while just 11% report exchanging SMS or MMS with people met online on a weekly basis.

Figure 13 shows how daily contact with parents and friends by talking on a mobile phone varies across age, gender and country:

**Figure 13: Daily contact by talking on the mobile phone/smartphone, by gender, age and country**



Q13: How often are you in contact with the following people by talking on the mobile phone/smartphone?

Base: All children who use a phone or a smartphone.

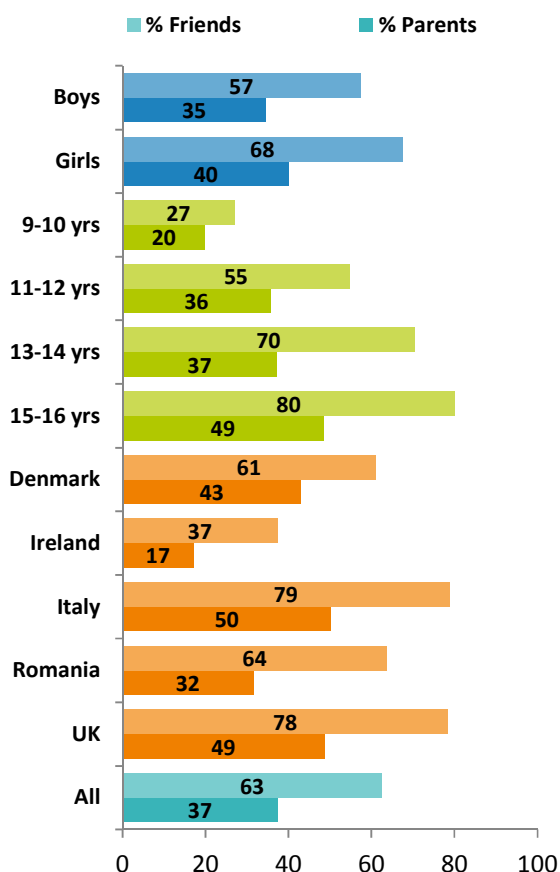
- Gender variations are not so pronounced: **girls are slightly more likely to call both parents and friends** daily.
- Conversely, contact with friends and parents through phone calls varies considerably across age groups: while the overall likelihood of calling both parents and friends triples from 9- to 10-year-olds to older teenagers, younger children are more likely to be in touch with their parents (38% report calling their parents daily, while just 26% call their friends). At the opposite end, teenagers call friends more than parents on a daily basis.

- Country differences are considerable and noteworthy: **Italian and Romanian children are more likely to call their parents and friends daily**, with little difference in the two kinds of interlocutors. **Children in the UK** are as likely as their peers in Italy and Romania to be in touch with friends by talking on the phone, but **less likely to call their parents**. **Danish children**, on the other hand, **call their parents more than their friends**. Finally, **just one in three Irish children calls their friends and parents daily**.

As shown in Figure 14 texting follows a different pattern:

- Most daily texting occurs among friends** rather than child-parent communication.
- Again, gender variations are not so pronounced, with both boys and girls texting more with friends than parents.
- Texting is strongly structured by age.** The number of children who are in touch with friends and parents daily through SMS increases across age groups, but **texting with friends increases more by age** (from 27% of 9- to 10-year-olds to 80% of older children) **than texting with parents** (from 20% of younger children to 49% of older teenagers).
- Country variations show that the majority of children in Italy (79%) and the UK (78%) are in touch with their friends through SMS on a daily basis; one in three children in Denmark and Romania text their peers daily, while only 37% of Irish children do so. Daily contact with parents through texting is reported by half the children in Italy and the UK, decreases in Denmark (43%) and Romania (32%), and is the lowest in Ireland (17%).

Figure 14: Daily contact by sending SMS/text or multimedia messages (MMS) with pictures or videos from a mobile phone/smartphone, by gender, age and country

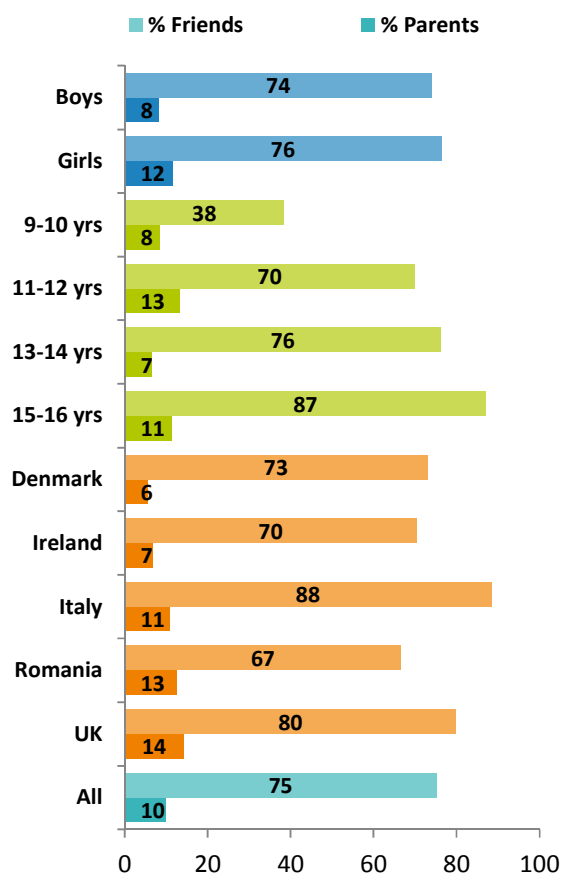


Q14: How often are you in contact with the following people by sending SMS/text or multimedia messages (MMS) with pictures or videos from your mobile phone/smartphone?  
Base: All children who use a phone or a smartphone.

Daily contact on SNS, as shown in Figure 15, reveals even greater disparities between communication with parents and with peers:

- As in the case of texting, most daily communication involves friends rather than parents: **three out of four children use SNS to communicate daily with their peers**, while **only one in ten** use SNS to keep in touch with parents.

Figure 15: Daily contact on SNS, by gender, age and country



Q18: How often are you in contact with the following people on SNS?

Base: All children who use SNS.

- Use of SNS to communicate with peers and parents does not vary by gender. Instead, age differences are more considerable: while the number of children in contact with parents on a daily basis remains very low across all age groups, contact with peers increases steadily from 38% of 9- to 10-year-olds to 87% of those aged 15-16. The wider gap is among younger children, and those aged 11-12, who report a double rate of daily contact with peers on SNS.
- Country comparisons show that **SNS is the preferred channel to keep in touch with friends daily in Denmark, Ireland, Italy and the UK**. Overall children in Italy and the UK communicate more with peers through all channels; on the other hand, Irish children keep in touch with friends mostly through the SNS platform, while Romanians tend to call slightly more than use SNS.

## 4.4 Children's approach to online communication

Online communication is one of the major opportunities that the internet offers children, and one where the boundary between benefits and risks is hard to draw. It has been argued, however, that risk-taking behaviour is associated with a particular approach to online communication (Livingstone *et al.*, 2011). Table 22 shows how children compare online and offline communication.

**Table 22: Online and offline communication compared**

% who say that...	Not true	A bit true	Very true
I find it easier to be myself on the internet than when I am with people face to face	64	28	8
I talk about different things on the internet than I do when speaking to people face to face	66	26	8
On the internet I talk about private things which I do not share with people face to face	80	15	5

Q47: How true are these of you?

Base: All children who use the internet.

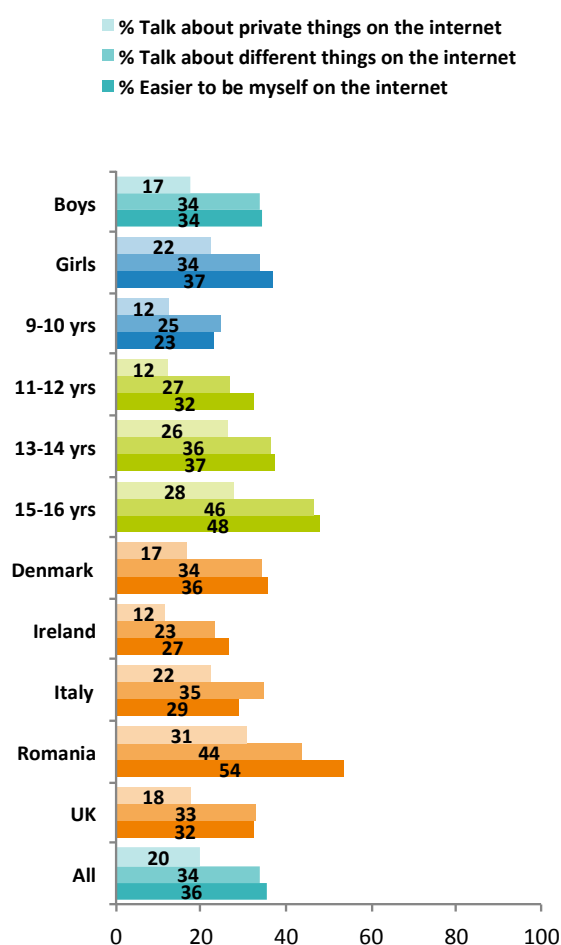
- **36% of children say it is 'a bit' or 'very' true of them that they find it easier to be themselves on the internet** than when with other people face to face; **64%** however, **say this is not true of them**. Compared to the findings of the EU Kids Online study (Livingstone *et al.*, 2011), and looking only at the five countries included in the Net Children Go Mobile study, the number of children who perceive the internet as the place for a more authentic communication is decreasing. Thus in 2010 some 57% of respondents in Denmark, Ireland, Italy, Romania and the UK said it was not true that they found it easier to be themselves on the internet (compared to 64% in 2013). This might well indicate that now, to a lesser extent, children are drawing a distinction between online and offline communication, as the internet is such an integral part of their

everyday lives.

- Similarly, one in three children say they talk about different things on the internet, and **just 20% say that they talk about private things online that they do not discuss face to face**.

Figure 16 shows how approaches to online communication vary by age, gender and country.

**Figure 16: Online and offline communication compared, by gender, age and country**



Q47: How true are these of you?

Base: All children who use the internet.

- Gender differences are slight, while age variations are notable: **teenagers**, especially those aged 15-16, **are more likely to agree with each statement**, suggesting that the internet offers adolescents a valued opportunity for intimate communication.
- Country differences are also notable: while

most countries are below or average, Romanian children score higher on the items examined. More specifically, **more than half of Romanian children find it easier to be themselves on the internet.**

## 5. Skills

Skills are often assumed to be an indicator of digital literacy, together with online activities and belief in one's own internet abilities. However, **digital literacy is more than a set of specific internet competences** a child may or may not possess: it is a combination of knowledge, competencies and attitudes, and indeed, a 'social practice' (Buckingham, 2007; Livingstone, 2009). Being digitally literate means having the ability to develop a critical relationship with media, and to engage in communication in an autonomous, competent and safe manner.

Hence, we acknowledge the limitations of using the **three measures of literacy – skills, activities and self-confidence** – traditionally employed in surveys (see also Livingstone *et al.*, 2011), as well as the limitations of indirect measurement by means of self-reported abilities compared to direct observation in performance tests (van Deursen & van Dijk, 2008). Nonetheless, the above measure of literacy has proved empirically valid in the study of the relationship between children's risk and opportunities on the internet. Prior research demonstrated that skills are positively associated with the diversity and frequency of online activities (Kuiper & de Haan, 2012; Livingstone & Helsper, 2007, 2009): **the more online activities children engage in, the more children are skilled and self-confident and vice versa**. The role of digital skills in mediating the relationship between risk and harm is less clear, although there are some indicators that more skilled children are less likely to report harm when they encounter online risks, while children who had experienced harm tend to have a lower level of self-reported digital skills (Sonck & de Haan, 2013).

To provide a more accurate account of children's internet competences, we expanded the range of online skills measured so as to include instrumental skills, critical and safety skills and communicative abilities. Furthermore, we also examined smartphone- and tablet-specific skills.

### 5.1 Self-confidence

To measure children's self-confidence we asked them to assess themselves against a set of statements, as shown in Table 23.

**Table 23: Self-assessment of various skills**

% of children who say...	Not true	A bit true	Very true
I know more about the internet than my parents	30	32	38
I know lots of things about using the internet	15	48	37
I know how to use 'report abuse' buttons	40	19	41
I know more about using smartphones than my parents	22	22	56
I know lots of things about using smartphones	13	35	52

Q47: How true are these of you?

Base: All children who use the internet.

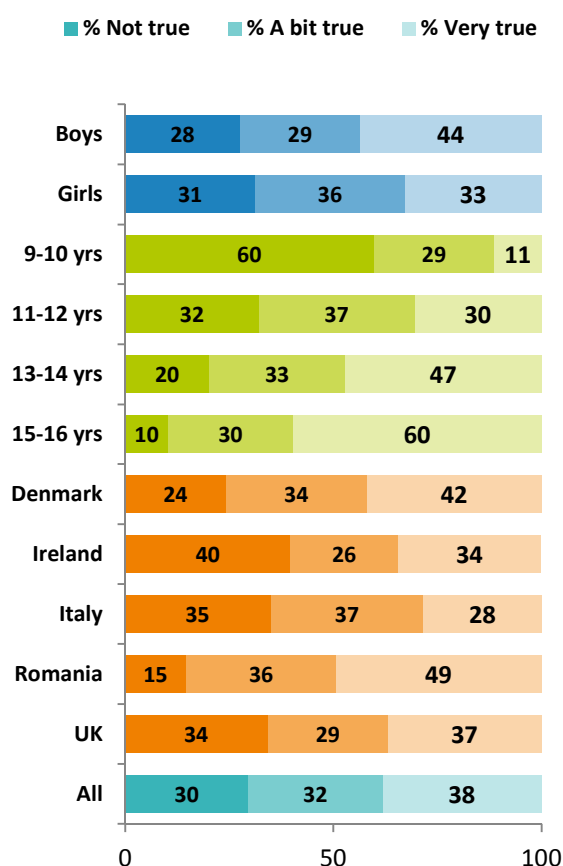
- On average, **38% of children say that the statement, 'I know more about the internet than my parents', is 'very true'**, one third (32%) say it is 'a bit true' and **30% say it is 'not true'**. Compared with the 2010 EU Kids Online survey, the number of children who are very self-confident is quite similar looking only at the five countries included in the Net Children Go Mobile study.
- The majority agree it is 'very' (37%) or 'a bit true' (48%) that they know a lot of things about the internet**, while just 15% believe this is not the case. This further suggests that children's belief in their own internet abilities is high.
- Self-confidence about using smartphones is even higher: 56% of children say that the statement, 'I know more about using smartphones than my parents', is 'very true' of them**, 22% say it is 'a bit true', while a further 22% think it is not true. Similarly, **more than half (52%) say it is 'very true' that they know a lot of things about using smartphones**, one third (35%) say it is 'a bit

true' and just 13% say it is not true. This finding suggests that the **generational gap** is higher for smartphones, and is consistent with data on the use of the internet and smartphones among parents presented in Figure 5.

- **Self-confidence regarding ability to use the internet safely** is the lowest of the items measured here: while over half of the children say that the statement, **'I know how to use "report abuse" buttons'**, is 'very' (41%) or 'a bit true' (19%) of them, **40% say it is 'not true'**.

Figure 17 and Figure 18 help understand how self-confidence varies by gender, age and country:

**Figure 17: 'I know more about the internet than my parents', by gender, age and country**



Q47: How true are these of you?

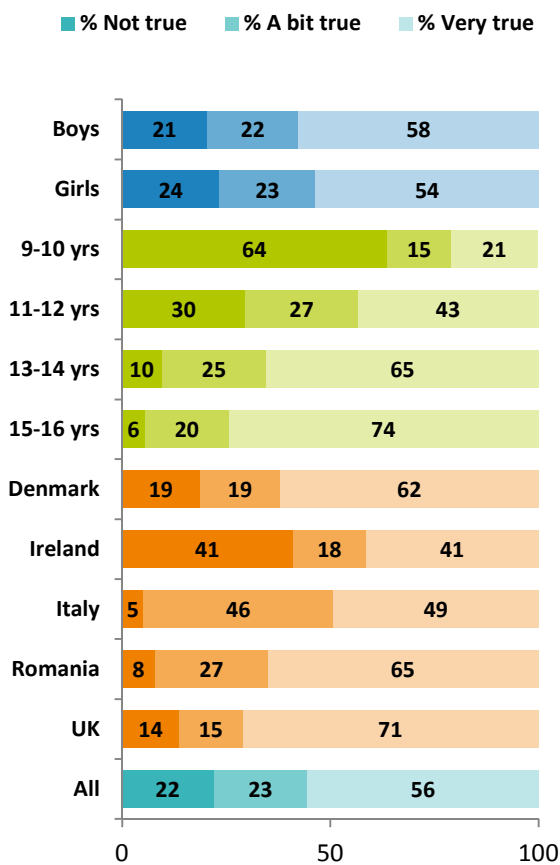
Base: All children who use the internet.

- Agreement with the statement, 'I know more about the internet than my parents', is differentiated by gender: more boys than girls say that it is 'very true' of them.
- Age variations, however, are more marked: while **60% of younger children don't believe that they have more internet abilities than their parents**, conversely, **60% of teenagers aged 15-16 claim it is 'very true' of them** that they know more about the internet than their parents.
- Country differences must be contextualised in the light of internet and smartphone diffusion, as shown in Figure 5. In **countries where the use of the internet among parents is around or above 90%, the number of children who say it is 'very' or 'a bit true' that they have more internet abilities than their parents ranges between 60% in Ireland to 76% in Denmark**. This variation is consistent with different levels of skills reported by children in these countries. Conversely, **in Romania, where just 57% of parents are internet users, 85% of children say it is true that they know more about the internet than their parents**.

Figure 18 shows how self-confidence specific to smartphones varies by demographic variables and across countries:



Figure 18: 'I know more about using smartphones than my parents', by gender, age and country



Q47: How true are these of you?

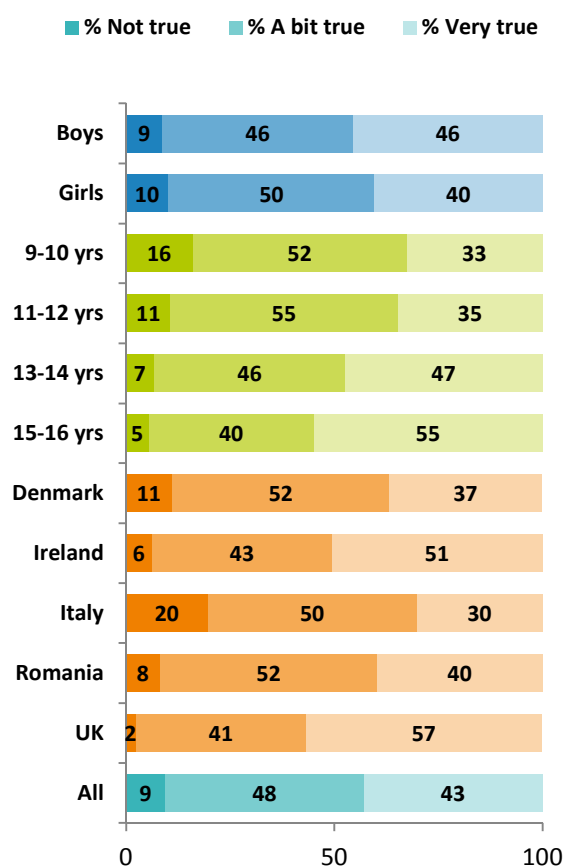
Base: All children who use the internet.

- Belief in one's own abilities regarding smartphone use shows little variation by gender.
- Age follows a similar pattern as self-confidence regarding internet use: **while just one third (36%) of children aged 9-10 say it is 'very' or 'a bit true' of them that they know more than their parents about using smartphones**, this belief rises to **94% of 15- to 16-year-olds**.
- Country variations are not so straightforwardly related with parents' use of smartphones: while the proportion of **children in Denmark (71%) and Ireland (59%) who say it is 'very' or 'a bit true' of them that they know more than their parents about using smartphones**

may be linked to a higher diffusion of smartphones among their parents, and the higher numbers **in Italy (95%) and Romania (92%)** correspond to lower penetration of smartphones among Italian (48%) and Romanian parents (18%), **in the UK** a substantial majority of parents (75%) are smartphone users, but still **86%** of children believe they have more abilities regarding use of smartphones. Moreover, other factors may be at play and influence children's self-confidence. For example, the strong mobile culture of Italian youths is certainly an issue that cannot be underplayed.

The EU Kids Online survey recognised that children do not take advantage of the same online opportunities across countries, due to different levels of familiarity with the English language in each country, and unequal provision of positive content for children in national languages. Figure 19 shows how children's perception of the quality of online content varies by demographics and country:

Figure 19: 'There are lots of things on the internet that are good for children of my age', by gender, age and country



Q47: How true are these of you?

Base: All children who use the internet.

- While **over four in ten (43%) 9- to 16-year-olds are very satisfied with the online provision** available to them, **a minority of children (9%) disagree with the statement, 'There are lots of things on the internet that are good for children of my age'.**
- Age differences are remarkable. **Younger children are more likely to express dissatisfaction** about the online provision of content for children: **only 33% of 9- to 10-year-olds say there are lots of good things for children of their age to do online**, an even lower figure than the 36% of respondents in this age group from the same five countries in 2010. By contrast, the oldest age group is the most satisfied (55%), almost the exact same number as in the 2010 EU Kids Online survey.

- Country variations are also considerable: **children are most satisfied in the UK (57%) and Ireland (51%)** – in the latter country, with a substantial increase from 2010, where just 44% of children were very satisfied. By contrast, **children's satisfaction is lowest in Italy (30%), and compared to 2010, has decreased considerably in Denmark** (from 47% to 37%), **Italy** (from 40% to 30%) and **Romania** (from 49% to 40%).
- The unique position of children in Ireland and the UK, who can access all content in English, is also confirmed by the very low levels of dissatisfaction in these countries (6% and 2% respectively).

**With children going online at ever younger ages, the gap between the provision of positive online content in English and locally produced content has increased** rather than been bridged. Notwithstanding notable policy efforts to promote the provision of positive online content in the past few years, these have proved more effective in English-speaking countries. Therefore, the gap between children who can access a wider variety of content produced both locally and globally, and those who are more reliant on locally produced content, is widening.

## 5.2 Skills and competences related to internet use in general

Table 24 shows instrumental and critical internet abilities, by age and gender

**Table 24: Skills related to internet use and critical understanding, by age and gender**

% who say they can...	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
Change filter preferences	14	10	52	37	29
Bookmark a website	47	40	78	71	60
Compare different websites to decide if information is true	24	26	71	67	48

Q26 a-c: Which of these things do you know how to do?  
Base: All children who use the internet.

- **Basic instrumental and critical skills are still unevenly distributed:** while 60% of children know how to bookmark a website, and nearly half (48%) can compare different websites to decide if information is true, just 29% of children report being able to change filter preferences.
- Across all age groups boys claim more skills than girls, with differences being higher for changing filter preferences among teenage boys and girls.
- Variations by age are also notable, with younger children claiming considerably fewer skills than teenagers, especially in terms of critical understanding and changing filter variables.

Table 25 examines the distribution of the same set of skills among smartphone users and non-users: in both age groups **smartphone users claim more of each skill** considered.

**Table 25: Skills related to internet use and critical understanding, by smartphone use and by age**

% who say they can...	9-12 years		13-16 years		All* (users and non-users)
	Non user	S-ph user	Non user	S-ph user	
Change filter preferences	10	17	38	50	29
Bookmark a website	36	62	61	85	60
Compare different websites to decide if information is true	21	35	61	75	48

Q26 a-c: Which of these things do you know how to do?

Base: All children who use the internet.

\* The 'All' values here refer to the average number of children who are internet users and claim these skills (as shown in Table 24).

On the contrary, differences among tablet users and non-users are less marked, as shown in Table 26:

**Table 26: Skills related to internet use and critical understanding, by tablet use and by age**

% who say they can...	9-12 years		13-16 years		All* (users and non-users)
	Non user	Tabl user	Non user	Tabl user	
Change filter preferences	12	14	43	51	29
Bookmark a website	39	57	72	83	60
Compare different websites to decide if information is true	23	35	68	72	48

Q26 a-c: Which of these things do you know how to do?

Base: All children who use the internet.

\* The 'All' values here refer to the average number of children who are internet users and claim these skills (as shown in Table 24).

Table 27 shows the distribution of **safety skills** by gender and age group. Although safety initiatives across Europe have widely promoted safety skills, just four skills out of the six measured are claimed by over half of the children, who know how to **block messages from unwanted contacts (59%)**, **change privacy settings on SNS (55%)**,

find information on how to use the internet safely (53%) and delete the record of websites visited (51%). So while there is generally an acceptable level of skills regarding safer social networking, other skills such as blocking spam (44%) and pop-ups (43%) are less common.

**Table 27: Skills related to internet safety in general, by age and gender**

% who say they can...	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
Block unwanted adverts or junk mail spam	29	19	66	55	43
Delete the record of which sites they have visited	34	30	76	62	51
Change privacy settings on a social networking profile	32	27	79	78	55
Block messages from someone they don't want to hear from	37	33	82	78	59
Block pop-ups	25	25	63	58	44
Find information on how to use the internet safely	37	33	72	67	53

Q26 d, Q27 a-e: Which of these things do you know how to do?  
Base: All children who use the internet.

More notably, there are **consistent variations by age and partly by gender**:

- While **boys generally claim more safety skills than girls**, the gap is wider for less common skills such as blocking spam and pop-ups.
- Teenagers claim more than double** the **skills** reported by younger children. That just one in three children aged 9-12 can change privacy settings on SNS, and a few more can block unwanted contacts, raises.

Table 28 shows that **variations between smartphone users and non-users in the possession of safety skills** are also **considerable** in both age groups.

**Table 28: Skills related to internet safety in general, by smartphone use and by age**

% who say they can...	9-12 years		13-16 years		All* (users and non-users)
	Non user	S-ph user	Non user	S-ph user	
Block unwanted adverts or junk mail spam	21	34	49	70	43
Delete the record of which sites they have visited	26	46	58	77	51
Change privacy settings on a social networking profile	22	49	64	89	55
Block messages from someone they don't want to hear from	27	54	69	88	59
Block pop-ups	20	40	55	66	44
Find information on how to use the internet safely	31	47	59	77	53

Q26 d, Q27 a-e: Which of these things do you know how to do?  
Base: All children who use the internet.

\* The 'All' values here refer to the average number of children who are internet users and claim these skills (as shown in Table 27).

**Table 29: Skills related to internet safety in general, by tablet use and by age**

% who say they can...	9-12 years		13-16 years		All* (users and non-users)
	Non user	Tabl user	Non user	Tabl user	
Block unwanted adverts or junk mail spam	24	24	60	65	43
Delete the record of which sites they have visited	29	42	69	71	51
Change privacy settings on a social networking profile	25	43	75	86	55
Block messages from someone they don't want to hear from	30	52	79	82	59
Block pop-ups	24	29	61	62	44
Find information on how to use the internet safely	34	40	68	73	53

Q26 d, Q27 a-e: Which of these things do you know how to do?  
Base: All children who use the internet.

\* The 'All' values here refer to the average number of children who are internet users and claim these skills (as shown in Table 27).

A comparison between users and non-users, as shown in

Table 29, confirms that, as for instrumental and critical skills, **disparities between tablet users and non-users are less pronounced** than in the case of smartphones. However, **younger children who are tablet users claim considerably more safety skills related to SNS**, such as blocking an unwanted contact and changing privacy settings.

When we look at **communicative abilities** (Table 30), we find support for the hypothesis that **creative and interactive uses of the internet are still at the top of the ‘ladder of opportunities’** (Livingstone & Helsper, 2007), **but that social media are now taken-for-granted everyday activities** for the majority of children: so while **just 30% of children know how to create a blog**, **56% claim they know how to post a comment online** and **63% how to upload and share content on social media**. The distribution by age and gender shows the same patterns, with little variation among boys and girls, and **teenagers claiming considerably more skills than younger children**.

**Table 30: Communicative abilities, by age and gender**

% who say they can...	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
Publish a comment on a blog, website or forum	33	36	74	78	56
Upload images, videos or music onto social media	41	38	85	84	63
Create a blog	13	12	47	46	30

Q27 f-h: Which of these things do you know how to do?  
Base: All children who use the internet.

Table 31 shows that, as for other sets of skills examined in this report, **smartphone users claim more communicative abilities**, although disparities between users and non-users are higher among 9- to 12-year-olds with respect to uploading content on to social media, and among teenagers when we consider the ability to post a comment on a blog, website or forum.

**Table 31: Communicative abilities, by smartphone use and by age**

% who say they can...	9-12 years		13-16 years		All* (users and non-users)
	Non user	S-ph user	Non user	S-ph user	
Publish a comment on a blog, website or forum	28	53	64	84	56
Upload images, videos or music onto social media	29	65	74	92	63
Create a blog	9	23	35	54	30

Q27 f-h: Which of these things do you know how to do?

Base: All children who use the internet.

\* The ‘All’ values here refer to the average number of children who are internet users and claim these skills (as shown in Table 30).

Table 32 shows variations between tablet users and non-users, which follows the same patterns just noted for smartphone users: those aged 9-12 who are tablet users are more likely to be able to share content on social media than their peers who do not use a tablet, while tablet users aged 13-16 are more likely to be able to post comments online.

**Table 32: Communicative abilities, by tablet use and by age**

% who say they can...	9-12 years		13-16 years		All* (users and non-users)
	Nonuser	Tabl user	Nonuser	Tabl user	
Publish a comment on a blog, website or forum	32	44	71	86	56
Upload images, videos or music onto social media	35	53	82	91	63
Create a blog	13	12	44	51	30

Q27 f-h: Which of these things do you know how to do?

Base: All children who use the internet.

\* The ‘All’ values here refer to the average number of children who are internet users and claim these skills (as shown in Table 30).

## 5.3 Skills related to smartphones and tablets

After asking all children who are internet users about a set of instrumental, critical, safety and communicative skills, we also measured skills related to smartphones and tablets among children who own or have for personal use mobile devices.

As shown in Table 33, **the majority** of children know how to **download apps** and **connect** their devices **to a wifi network**. Variations by age and gender persist, with **boys and older children likely to claim more skills**; moreover, the divide between boys and girls is stronger in the youngest group.

Less common, but still claimed by more than half the children, is the ability to **compare different apps** in order to choose the most reliable, and to **synchronise** all the devices the child has access to. With respect to these two skills, age differences are marked; by contrast, gender variations are more pronounced among children of the youngest group, while differences between teenage boys and girls are irrelevant, if non-existent.

**Table 33: Skills related to use and critical understanding on smartphones and tablets, by age and gender**

% who say they can...	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
Download apps	95	88	98	95	95
Connect to a wifi network from smartphone	83	72	96	93	88
Have the same documents, contacts and apps on all devices that they use	39	32	73	70	58
Compare different apps with similar functions in order to choose the one that is most reliable	51	45	70	70	63

Q28 a, Q28 c, Q28 e, Q29 b: Which of these things do you know how to do?

Base: All children who own or have for their own use a smartphone or a tablet.

Table 34 shows the distribution of safety skills related to smartphones and tablets, by age and gender.

**Table 34: Skills related to safety on smartphones and tablets, by age and gender**

% who say they can...	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
Deactivate the function showing their geographical position	43	28	79	70	61
Block push notifications from different apps	46	29	78	67	60
Block pop-ups which promote apps, games or services they have to pay for	32	28	65	49	47
Protect a smartphone with a PIN, with a screen pattern	77	84	96	96	90
Find information on how to use smartphones safely	52	42	75	72	65

Q28 b, Q28 d, Q28 f, Q28 g, Q29 a: Which of these things do you know how to do?

Base: All children who own or have for their own use a smartphone or a tablet.

- It is comforting that **the majority of children can protect their smartphones and tablets with a passcode**, with few variations across age groups, although there are bigger differences between younger girls and boys. Indeed, risks related to personal data misuse are often listed among the top concerns by children, as the qualitative interviews and focus groups currently being carried out suggest.
- The second most common skill is **finding information on how to use smartphones and tablets safely**, a skill claimed by **two out of three teenagers**, **half of the younger boys** and **just 42% of girls aged 9-12**.
- Deactivating location-tracking functions** is claimed by **61%** of smartphone users and tablet users overall, but with considerable variations by age and gender: while 79% of boys and 70% of girls over 13 can do it, **just 43% of younger boys and 28% of younger girls** say they are able to do it.

- While **boys generally claim more safety skills than girls**, the gap is wider for less common skills such as blocking spam and pop-ups.
- **Blocking push notifications from apps** is claimed by **60% of children**, but is also strongly structured by age and gender, so while boys and older children are more likely to claim this skill, **just 29% of younger girls** report being able to do it.
- Finally, **blocking pop-ups that promote apps, games or services you have to pay for** is the least common ability, claimed by **less than half (47%)** of the children overall, with considerable gender and age differences: just one in three boys and girls aged 9-12 and one in two teenage girls say they can actually block pop-up messages.

Therefore, the findings suggest that **younger children**, and younger girls in particular, are **more vulnerable to privacy and commercial risks** on mobile media.

Finally, we asked children about specific communicative abilities on smartphones and tablets. As shown in Table 35, **the majority** of children claim the ability to **update their status on SNS** from a mobile device and to **create and share content on SNS by means of their smartphones or tablets**. Age differences persist, with around two out of three children in the youngest age group saying they are able to do these activities. However, together with data on daily online activities, these findings point to **a more advanced progression on the ‘ladder of opportunities’** by children who own smartphones and tablets.

**Table 35: Communicative abilities on smartphones and tablets, by age and gender**

	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
% who say they can...					
Update status on SNS used most	60	56	95	92	81
Take a picture or a short video with smartphone and upload it on to social media	68	67	93	92	84

Q28 h, Q29 c: Which of these things do you know how to do?

Base: All children who own or have for their own use a smartphone or a tablet.

## 5.4 Average number of skills

It has already been shown that specific skills vary considerably by age, and in some cases, by gender.

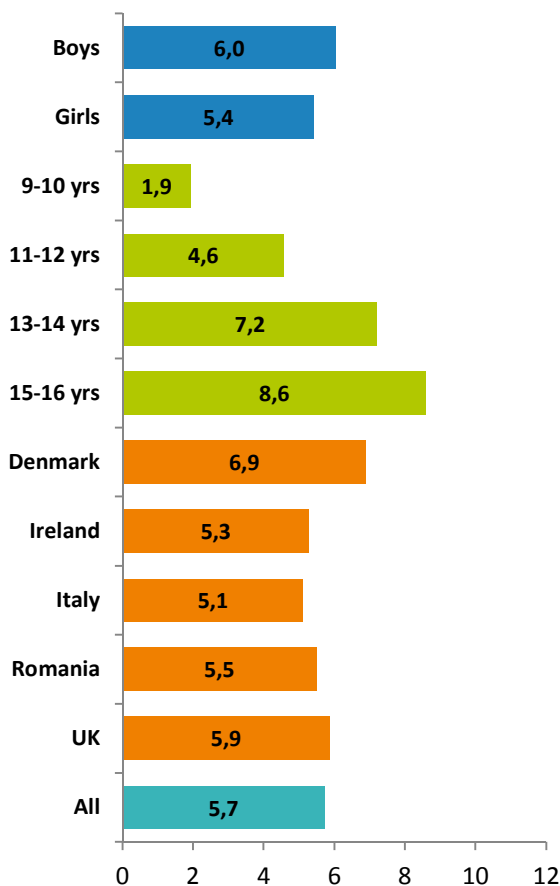
Figure 20 shows variations by age, gender and country in the overall number of skills claimed by children.

- **On average** children claim **half of the 12 skills** we asked about, with small differences between girls and boys.
- By contrast, the number of skills is strongly structured by age, ranging from **two skills claimed by 9- to 10-year-olds** to **over eight skills among 15- to 16-year-olds**.

Country variations show some differences compared to the EU Kids Online 2010 data (Livingstone et al., 2011): Denmark now tops the list with children claiming seven skills on average, followed by the UK with an average of six skills; Romania surpassed Ireland, Italy is close to Ireland.



Figure 20: Average number of skills related to internet use (out of 12)



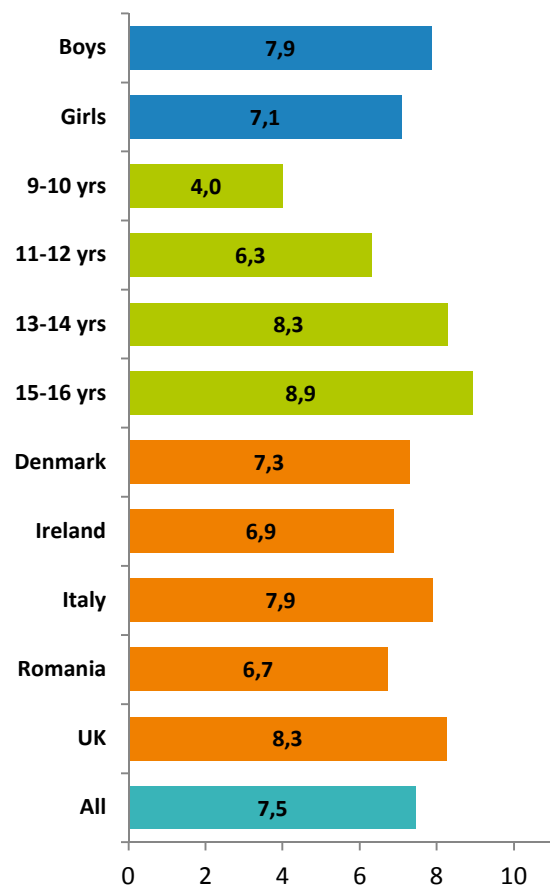
Q26 a-d, Q27 a-h: Which of these things do you know how to do? (Average out of 12 items.)

Base: All children who use the internet.

When we focus on skills related to smartphones and tablets, as shown in Figure 21, the picture is somewhat different:

- **On average**, children claim more skills related to smartphones and tablets (**7.5 out of 11**), with a slight gender difference.
- Age differences are again considerable, but less wide, ranging from **four skills claimed by 9- to 10-year-olds** to **nearly nine skills among 15- to 16-year-olds**.
- Variations across countries are also notable, with **the UK and Italy leading with around eight skills on average**, followed by Denmark, Ireland and Romania.

Figure 21: Average number of skills related to smartphones and tablets (out of 11)



Q26 a-d, Q27 a-h: Which of these things do you know how to do? (Average out of 11 items.)

Base: All children who own or have for their own use a smartphone or a tablet.

These country differences may be the outcome of different processes of domestication of smartphones and tablets among young people, diverse diffusion of the internet overall, a different way of incorporating the internet in the education system, as well as reflecting specific youth media cultures.

## 6. Risk and harm

The body of research on risks of the internet for children has been considerable in the past decade.<sup>8</sup> However, most studies have focused on specific risks in certain countries, rather than on the overall experience of risk and harm in comparative perspective. One notable exception is the EU Kids Online project, which has surveyed more than 25,000 children aged 9-16 and their parents in 25 European countries. One of the major findings of this project is that **online risky experiences do not necessarily result in harm**, as reported by children (Livingstone *et al.*, 2011). Rather, the EU Kids Online research showed that children who encounter more risks online are not necessarily those who experience more harmful consequences; on the contrary, they are usually more skilled and develop more resilience. On the other hand, children who are less exposed to both opportunities and risks tend to be more bothered when they have a negative experience online (*ibidem*; See also Livingstone *et al.*, 2012). In both categories – that is, older users who tend to be exposed to more risks but who are also more resilient, and younger users who are less skilled, undertake fewer activities and encounter less risks – those who are vulnerable offline because of psychological problems or social characteristics find online risks more harmful (Livingstone *et al.*, 2012). In other words, **online and offline vulnerability go hand in hand**.

In order to measure the incidence of online risks and harm, we asked children who use the internet if they had ‘*seen or experienced something on the internet that has bothered them in some way*’, where ‘bothered’ was defined as something that ‘*made you feel uncomfortable, upset, or feel that you shouldn’t have seen it*’. Additionally, children were asked if they had encountered a range of online risks, and then, if they had been bothered by these.

The measurement of risky and harmful online experiences largely draws on the EU Kids Online framework and methodology (Livingstone *et al.*, 2011). Similarly, then, **harm was measured subjectively in terms of the severity of children’s responses to online risky experiences**. Continuities with the EU Kids Online project were also ensured, both at the level of the survey administration and in the questionnaire design. In order to maximise the quality of children’s answers and to ensure their privacy, the survey was conducted face to face in the home, but sensitive questions were self-completed by the child. The wording of the questionnaire was refined on the basis of cognitive testing with children of different age groups and gender in each country, in order to ensure children’s comprehension and to avoid adults’ terminology (such as ‘sexting’). Furthermore, particularly emotive terms, such as ‘stranger’ or ‘bullying’, were also avoided.

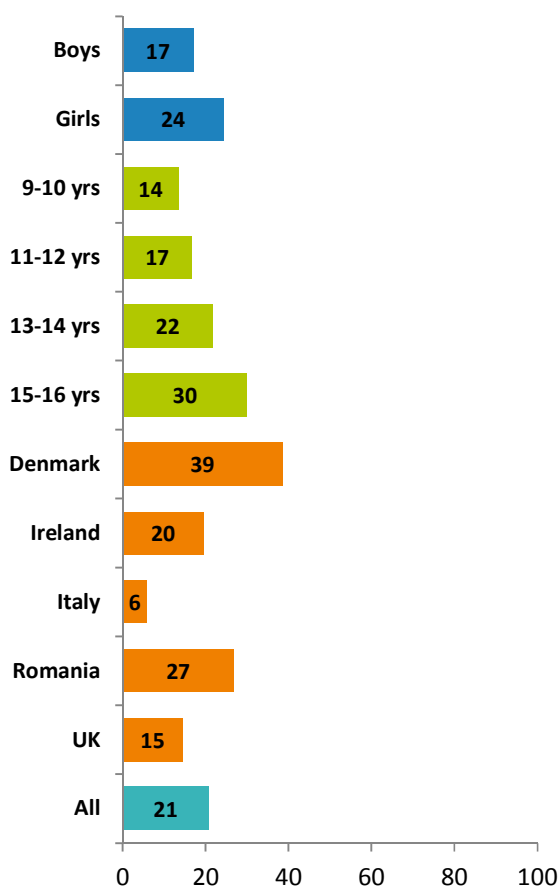
### 6.1 Overall perception of risk and harm

Before asking children about specific risky experiences, we asked them a closed and an open-ended question, asking them to provide their overall view on negative online experiences. Children were asked, ‘In the past 12 months, have you seen or experienced something on the internet that has bothered you in some way? For example, made you feel uncomfortable, upset, or feel that you shouldn’t have seen it?’, and ‘If you have seen or experienced something on the internet in the past 12 months that has bothered you in some way, can you write down what happened or what it was that bothered you or made you upset?’

<sup>8</sup> For a review of the European evidence see Ólafsson *et al.*, 2013.

Figure 22 shows children's experiences of problematic events, by age, gender and country.

**Figure 22: Online experiences that have bothered children (%), by age, country and gender**



Q30: In the PAST 12 MONTHS, have you seen or experienced something on the internet that has bothered you in some way? For example, made you feel uncomfortable, upset, or feel that you shouldn't have seen it?

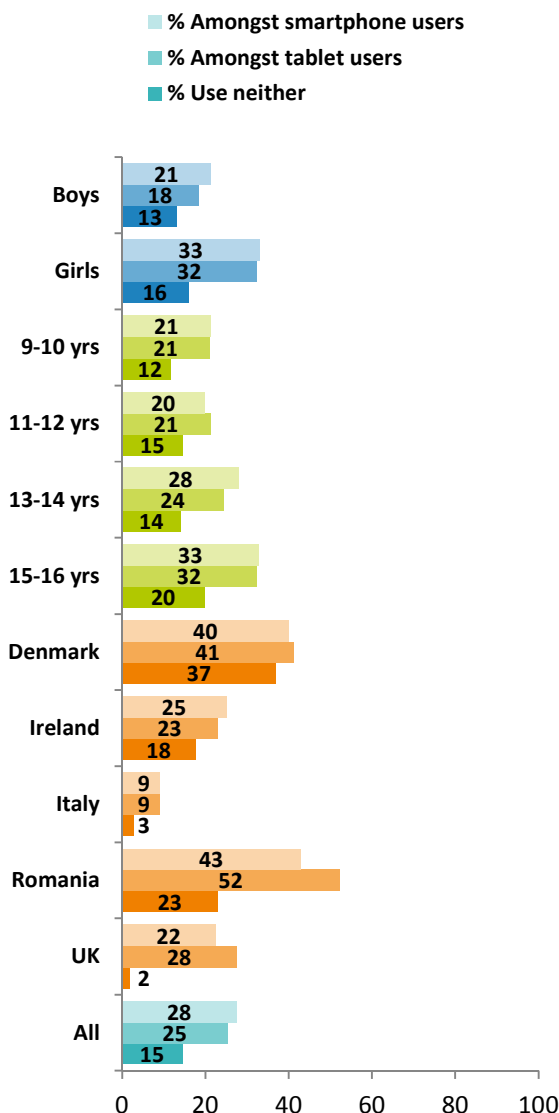
Base: All children who use the internet.

- Overall, **one in five children (21%)** say that they **have been bothered by something on the internet in the past year**. While it is still a minority of children, this is a higher percentage than reported by children in the 2010 EU Kids Online survey.
- Gender and age differences are considerable: **girls (24%) are more likely to be bothered than boys (17%)**, and **the youngest children, aged 9-10, are the least likely to have been bothered by something online (14%) compared with older teenagers (30%)**.

- Perceptions of problematic events on the internet is also variable across countries: **Danish children (39%) are more likely to report being bothered** by something on the internet, while **Italian children (6%) are the least likely** to do so. Comparison with the EU Kids Online data shows that **since 2010 the number of children reporting an online experience that bothered them has increased in Denmark (from 28% to 39%), Ireland (from 11% to 20%) and Romania (from 21% to 27%)**, while it has been more or less **stable in the UK (from 13% to 15%) and Italy (also 6% in 2010)**.

Figure 23 shows variations in the perceptions of online risks among children who use smartphones or tablets daily, and children who do not use smartphones or tablets to go online, by gender, age and country:

Figure 23: Online experiences that have bothered children, comparing mobile and non-mobile internet users



Q30: In the PAST 12 MONTHS, have you seen or experienced something on the internet that has bothered you in some way? For example, made you feel uncomfortable, upset, or feel that you shouldn't have seen it.

Base: All children who use the internet.

- Overall, **children who use smartphones daily (28%) are slightly more likely to say that they have been bothered by something on the internet in the past year than tablet users (25%), and both are far more likely to have bothering online experiences than children who use neither (15%) of the mobile devices to go online.**

- There are no gender variations in this general pattern - across all three categories of internet users, girls are more likely to claim they have been bothered - but some age differences are worth noting: **in the younger age groups (9-10 and 11-12), tablet users are slightly more likely to say they have been bothered**, while among 13- to 14-year-olds, smartphone users are more likely to do so.
- Country differences are also remarkable:** while in **Denmark** the likelihood of reporting being bothered doesn't change much across the three categories of internet users, in **Romania** tablet users (52%) are more exposed to problematic experiences than both smartphone users (43%) and non-users (23%). The **UK** follows a similar pattern, but with lower differences between tablet users (28%), smartphone users (22%) and a greater difference with non-users (2%). In **Ireland** smartphone users (25%) are slightly more likely to be bothered than tablet users (23%), while in **Italy** the likelihood of children saying they have seen something upsetting is the same for tablet and smartphone users (9%).

A few preliminary conclusions can be drawn. First, what we have examined here is children's perceptions that there are things that have bothered them online. The following sections provide a more detailed picture of the specific problems children experience on the internet.

Second, there seems to be **an increase in the likelihood that children say they have been bothered by something they have seen on the internet that can be associated with the use of smartphones and tablets to go online.** Denmark is the only exception, since the overall perception of problematic experiences has risen, independently from single platforms.

Third, this association reinforces the so-called 'usage hypothesis': **the more children use the internet, the more opportunities they take up, but also the more risky experiences they are exposed to.**

## 6.2 Bullying

Despite being a recurrent theme in the research, public and policy agenda, there is no standard definition of ‘cyberbullying’, because the phenomenon itself is a moving target (Schrock & boyd, 2008; see also Levy *et al.*, 2012). Most definitions rely on the definition of bullying itself, and its components. ‘**Bullying**’ has been defined as a form of aggression that is (a) **intentional**, (b) **repetitive** and (c) involving a **power imbalance** between a victim and a perpetrator. Accordingly, cyberbullying is defined as intentional and repeated aggression using any form of technological device such as the internet or mobile phone. To avoid adopting contested, adult or emotionally-charged terms, bullying was here defined as follows: *‘Sometimes children or teenagers say or do hurtful or nasty things to someone and this can often be quite a few times on different days over a period of time, for example. This can include: teasing someone in a way this person does not like; hitting, kicking or pushing someone around; intentionally leaving someone out of things. When people are hurtful or nasty to someone in this way, it can happen: in person face to face (a person who is together with you in the same place at the same time); by mobile phone (texts, calls, video clips); on the internet (email, instant messaging, social networking, chatrooms); on whatever device you use to go online’.*

Although cyberbullying is also an intentional and repeated communication activity aimed at harassing or making fun of someone – and as such it involves power imbalance – research has shown that the specificities of online or mobile communication reinforce the features of traditional bullying while adding new elements. For example, **anonymity** ‘can heighten the threatening nature of an act of cyberbullying, or the victim’s resultant sense of powerlessness’ (Levy *et al.*, 2012, p. 11), thus reinforcing the power imbalance between the victim and the aggressor. Anonymity, however, may not be exclusive of online communication (the school environment may well facilitate acts of bullying that are anonymous, as Levy and colleagues point out). Moreover, while an act of cyberbullying may not necessarily be repeated over

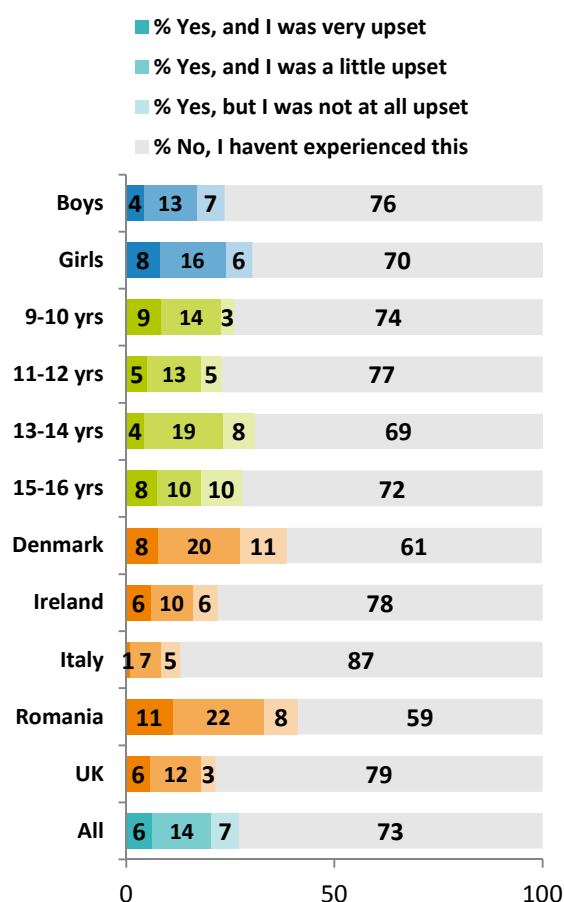
time (Levy *et al.*, 2012), the properties of mediated publics – **persistence**, **searchability**, **replicability** and **invisible audiences** (boyd, 2008) – potentially amplify the duration of cyberbullying and its harmful consequences, as wider audiences can be involved.

Prior research has shown that, while cyberbullying is less common than offline bullying (Livingstone *et al.*, 2011; Ybarra *et al.*, 2012), it is a very distressing and harmful experience (Livingstone *et al.*, 2011). The shift from offline to online spaces means that the boundaries of space and time are becoming meaningless: one cannot leave a place and know that the bullying will end; rather, the bullying is likely to take place also after school, on a variety of platforms (Kernaghan & Elwood, 2013). Moreover, compared to face-to-face forms of bullying, the boundaries between the roles of victim, perpetrator and bystanders are less easily drawn in online bullying (Lampert & Donoso, 2012).

Consequently, we asked children how upset they were when they experienced ‘mean’ conduct by someone else, and also whether they had ever behaved in this way with someone else.

Figure 24 shows that **27% of children have experienced any form of bullying on- or offline; 20% say they were ‘very’ (6%) or ‘a little upset’ (14%)** about what happened:

Figure 24: Child has been bullied online or offline in the past 12 months



Q32: In the PAST 12 MONTHS, has someone treated you in this kind of way, and if so, how upset were you about happened?  
Base: All children who use the internet.

- The experience of bullying is slightly gendered, with **girls being a bit more likely to experience bullying (30%) and to be upset (24%)** than boys (among whom 24% reported being bullied and 17% being harmed).
- Age variations are also notable, and confirm that **the transition from pre-adolescence to adolescence marks a time of increased bullying: 13- to 14-year-olds (31%) and 15- to 16-year-olds (28%)** are more likely to be bullied. It is, however, **the youngest children who report higher rates of harm (23%)**.

- The likelihood of being a victim of bullying varies consistently through the countries: **children are more likely to be bullied in Romania (41%) and Denmark (39%),** and less likely in **Ireland (22%), the UK (21%) and Italy (13%)**.

Bullying can occur in many ways. Table 36 shows the ways in which children have actually been bullied.

Table 36: Ways in which children have been bullied in the past 12 months, by age

%	Age				All
	9-10	11-12	13-14	15-16	
In person, face to face	15	10	12	12	12
By mobile phone calls	3	1	2	5	3
By messages sent on phone (SMS, TEXT or MMS)	1	3	4	7	4
On SNS	1	6	12	10	8
On a media sharing platform	0	0	2	1	1
By instant messaging	2	2	3	2	2
In a chatroom	1	1	0	1	1
By email	0	0	0	0	0
On a gaming website	4	1	1	2	2
In any form on the internet or through mobile phones	10	11	18	17	14

Q33: If someone has treated you in this kind of way, how did it happen? (Multiple responses allowed).  
Base: All children who use the internet.

- While **12% of children have been bullied face to face**, offline bullying is no longer the dominant mode of mean and offensive conduct; indeed, if we sum all the forms of **cyberbullying, 14% report being bullied online or through mobile communication**.
- The most common ways cyberbullying occurs is on **SNS (8%), SMS and texts (4%), phone calls (3%), instant messaging (2%) and gaming websites (2%)**.
- Age differences are notable: the **youngest children aged 9-10 are more likely to report being bullied face to face and on a gaming website**. By contrast, among **teenagers** (aged 13-14 and 15-16), cyberbullying is more likely to

occur on **SNS**. The oldest group also reports more experiences of cyberbullying via SMS and phone calls.

Table 37 shows how the ways in which bullying occurs varies across mobile and non-mobile internet users:

**Table 37: Ways in which children have been bullied in the past 12 months, comparing mobile and non-mobile internet users**

%	Smart-phone users	Tablet users	Use neither
Have experienced any form of cyberbullying	19	17	9
In person, face to face	12	12	13

Q33: If someone has treated you in this kind of way, how did it happen? (Multiple responses allowed.)

Base: All children who use the internet.

- **Smartphone users (19%) and tablet users (17%) are more likely to have experienced any form of cyberbullying than children who do not use mobile devices (9%)**
- Conversely, those who **don't use smartphones and tablets to go online are slightly more like to be victims of face-to-face bullying.**

As anticipated, research has shown that the line between victims and perpetrators is more difficult to draw in cyberbullying, and indeed, it is so for this sample, that **51% of those children who admit to having treated others in a hurtful or nasty way on the internet or by using mobile phones have themselves been treated in a hurtful or nasty way by others.**

Table 38 shows the ways in which children bullied others, by age:

**Table 38: Ways in which children bullied others in the past 12 months, by age**

	Age				All
	9-10	11-12	13-14	15-16	
%					
In person, face to face	10	10	8	11	10
By mobile phone calls	2	3	2	3	3
By messages sent on phone (SMS, TEXT or MMS)	0	3	2	6	3
On a SNS	1	4	3	5	3
On a media sharing platform	1	1	2	2	1
By instant messaging	0	1	0	1	1
In a chatroom	0	2	1	1	1
By email	0	1	0	1	1
On a gaming website	3	1	2	2	2
In any form on the internet or through mobile phones	6	9	8	13	9

Q34 In the PAST 12 MONTHS, have you ever behaved in this way to someone else and if so, in which way did you do it? (Multiple responses allowed.)

Base: All children who use the internet.

- **The single most common mode of bullying is face to face: 10%** of children report having bullied others in an offline context. But combining **all forms of cyberbullying**, some **9%** of children admit to having used any of those communication channels to bully others.
- Among the forms of **cyberbullying**, children report aggressive conduct against other peers especially on **SNS**, via **SMS** and other **texts** on mobile phones, or through phone **calls**.
- Age trends are notable: **older teenagers are more likely to bully others** overall, and to do so **face to face, by messages sent on mobile phones or on SNS**.



Table 39 shows how aggressive conduct varies among mobile- and non-mobile internet users.

**Table 39: Ways in which children bullied others in the past 12 months, comparing mobile and non-mobile internet users**

	Smart-phone users	Tablet users	Use neither
%			
Have engaged in any form of cyberbullying	9	8	10
In person, face to face	9	9	10

Q34 In the PAST 12 MONTHS, have you ever behaved in this way to someone else and if so, in which way did you do it? (Multiple responses allowed.)

Base: All children who use the internet.

- Children who **don't use smartphones and tablets to go online are slightly more like to bully others face to face as much as to engage in any form of cyber-bullying.**

Some preliminary observations are required. Although we are arguably observing a rise in cyberbullying compared to the 2010 EU Kids Online data (Livingstone *et al.*, 2011), whether this is a direct outcome of new media devices or rather, an indirect outcome of changes in the way children access the internet, or, even, the consequence of awareness campaigns - whereby children are more sensitive to this issue and more likely to recognise mean conduct as bullying - needs further analysis. We are rather inclined, however, to believe that **the 'more opportunities, more risks' hypothesis** is a valid framework to understand the changes associated with smartphones and tablets, changes that lead to more pervasive internet access and use in children's everyday lives.

Since those who report being harmed by bullying represent a consistent minority, it is vital to address vulnerable children with specific safety and empowering programmes.

## 6.3 Sexual messages

There is evidence that children are using the internet and mobile phones as part of their sexual interactions and explorations (Lenhart, 2009; Livingstone *et al.*, 2011). This practice has been termed 'sexting' (the amalgam of 'sex' and 'texting'), and has been variously defined. One approach restricts sexting to the exchange of images by means of mobile phones: for example, Lenhart defines sexting as 'the creating, sharing and forwarding of sexually suggestive nude or nearly nude images' of themselves or someone they know by mobile phones (2009, p. 2), thus excluding sexually suggestive texts as well as other communication platforms. The EU Kids Online survey, instead, adopted a more inclusive notion of sexting, which includes both images and texts and privileges online communication over the use of mobile phones (Livingstone *et al.*, 2011). Drawing on this broader definition, we defined sexting as **'sexual messages or images. By this we mean talk about having sex or images of people naked or having sex. Here are some questions about this. Think about any way in which you use the internet and your mobile phone/smartphone'**.

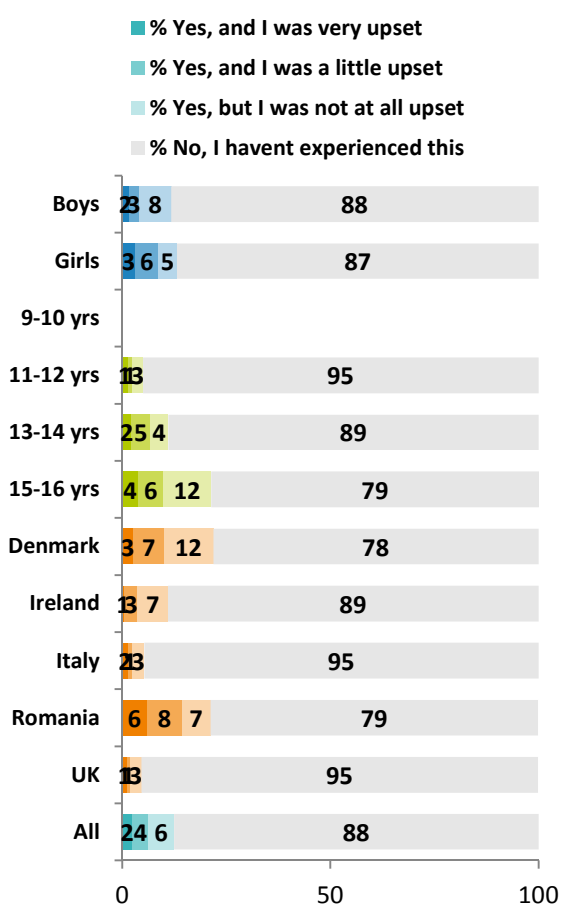
The Pew Internet study (Lenhart, 2009) identifies three basic **sexting scenarios**, where the exchange of sexual images occurs as (a) a prelude to a sexual activity; (b) part of teenagers' experimenting with sexual identity and intimacy, while they are not yet sexually active; or (c) part of a sexual relationship. Indeed, most sexting is likely to be contextualised in a peer-to-peer romantic relationship, as a form of 'relationship currency' (Lenhart, 2009, p. 8). However, the specific technological and social affordances of ICTs may amplify the borders, meanings and audiences of sexting: images and texts exchanged in the context of a romantic relationship by means of SMS and MMS, instant messaging (WhatsApp, Snapchat, etc.) or SNS, can be easily forwarded, posted in more public online spaces and thus shared with wider audiences. Therefore, sexual messaging can have **unintended consequences** and may turn into an upsetting or problematic experience for some children. Prior research has claimed that the exchange of sexually explicit images, messages or invitations is linked to

harassment and bullying, thus leading to a form of 'sexual cyberbullying' (Kofoed & Ringrose, 2012; Ringrose *et al.*, 2012).

Consequently, we asked children 'In the past 12 months, have you received sexual messages of this kind (this could be words, pictures or videos), and if so, how upset were you about happened? Think about any way in which you use the internet and your mobile phone/smartphone'.<sup>9</sup> For ethical reasons, this question was not asked of 9- to 10-year-olds.

Figure 25 shows how children answered this question by gender, age and country:

**Figure 25: Child has received sexual messages online in the past 12 months (age 11+)**



Q42: In the PAST 12 MONTHS, have you received sexual messages of this kind (this could be words, pictures or videos),

<sup>9</sup> The question asked in the EU Kids Online survey was if children had 'seen or received sexual messages'. Here, we excluded the word 'seen' as potentially misleading (it was thought to lead to potential confusion with sexual images).

and if so, how upset were you about happened?

Base: All children aged 11-16 who use the internet.

- Overall, **12% of children have received sexual messages of any kind**, and 6% report being '**very**' (2%) or '**a little**' (4%) upset as a consequence.
- While the overall experience of receiving sexual messages is not differentiated by gender, the likelihood of being harmed from this experience is: **girls are more likely to be 'very' (3%) or 'a bit' upset (6%) by sexting than boys** (among whom 2% and 3% respectively are 'very' or 'a bit' bothered).
- Sexting increases with age**: while just **5% of children aged 11-12** are likely to say they have received messages of this kind, **11% of 13- to 14-year-olds and 22% of 15- to 16-year-olds** are likely to report this experience.
- Receiving sexual messages of any kind is more likely to be experienced by **Danish (22%) and Romanian children (21%)**; it has been reported by **11% of Irish children**, and is a limited experience in **Italy and the UK (5%)**.

Table 40 examines the ways in which children have received sexually suggestive messages of any kind, and shows that this **occurs most on SNS (6%), SMS or MMS (3%) and instant messaging (2%)**. Children who are 15-16 years old experience more sexting across all channels examined.

**Table 40: Ways in which children have received sexual messages in the past 12 months, by age (age 11+)**

	Age				All
	9-10	11-12	13-14	15-16	
%					
By mobile phone calls		0	0	3	1
By text messages sent on phone		1	3	7	3
On a SNS		2	6	11	6
On a media sharing platform		1	0	2	1
By instant messaging		1	1	4	2
In a chatroom		0	1	1	1
By email		0	0	2	1
On a gaming website		0	1	2	1
In a gaming community		0	0	0	0

Q43: Again, if you have received any messages of this kind, how did it happen? (Multiple responses allowed).

Base: All children aged 11-16 who use the internet.

Table 41 examines the differences between mobile- and non-mobile internet users in the way sexual messages are received.

**Table 41: Ways in which children have received sexual messages in the past 12 months, comparing mobile and non-mobile internet users (age 11+)**

	Smart-phone users	Tablet users	Use neither
%			
By text messages sent to phone	5	2	2
On a SNS	8	6	4

Q43: Again, if you have received any messages of this kind, how did it happen? (Multiple responses allowed).

Base: All children aged 11-16 who use the internet.

- Children who are **smartphone users are more likely to receive sexually suggestive**

**messages on SNS (8%) and by text messages on their phones (5%).**

- Tablet users are also more likely to experience sexting on SNS (6%) than average**, but just as much likely than non-mobile internet users to receive sexual texts on their mobile phones.

Comparison with the EU Kids Online data (Livingstone *et al.*, 2011) helps us advance some observations: **sexting has increased in Denmark (from 16% to 22%)**, it has remained stable or almost stable in Ireland (also 11% in 2010), Italy (from 4% to 5%) and Romania (from 22% to 21%), and has **decreased substantially in the UK (from 12% to 5%)**. **The number of children who have been bothered** by sexually suggestive messages received online or on their phones **has increased in all countries apart from the UK** (which dropped from 3% to 2%), most notably in **Denmark (from 4% to 10%) and Romania (from 9% to 14%)**. While the numbers overall are lower, the proportion of children who said they were upset after this experience has also doubled in **Ireland (from 2% to 4%) and Italy (from 1% to 2%)**. Therefore, urgent policy initiatives are needed in countries where children are more likely to be bothered by sexual messages. Even in countries where the incidence of both risk and harm is lower, it is of vital importance to address the minority of children who are more vulnerable to the harmful consequences of sexting.

## 6.4 Meeting new people

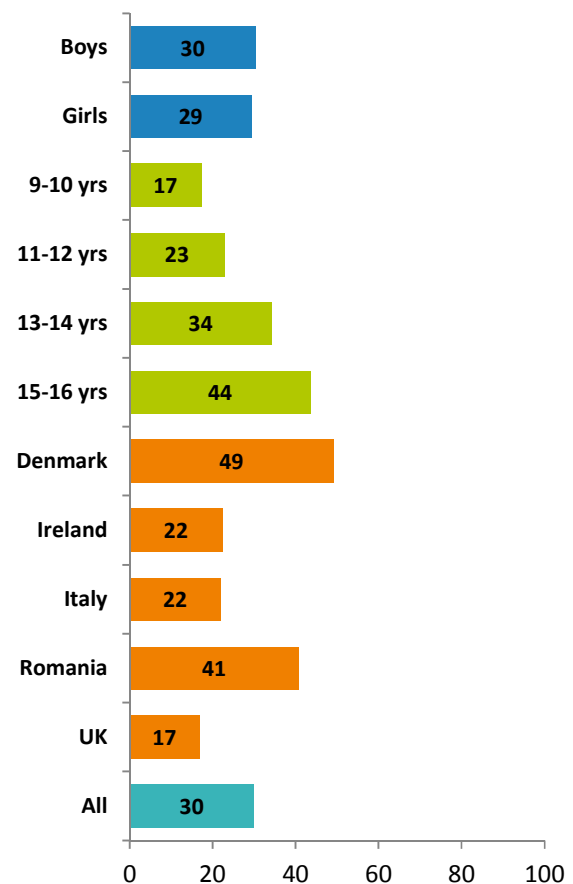
One of the major anxieties regarding young people's online communication concerns what can be referred to as **the 'stranger danger'**, that is, the idea that young people might meet someone online, be persuaded to meet them offline and end up being abused in the face-to-face encounter. Indeed, previous research suggests that 'meeting strangers' can encompass a variety of circumstances and experiences, which cannot be assumed as universally problematic (Barbovschi *et al.*, 2012; Ito *et al.*, 2009); at the same time, prior studies show that the risk of being harmed from a

face-to-face contact with someone met online is low (Livingstone *et al.*, 2011). One major reason lies in the modes of online sociability, whereby children tend to extend their online contacts by activating 'latent ties' (e.g. people they share friends or locations with), rather than looking for people with no connections with their offline worlds. Indeed, most of the face-to-face meetings with contacts first met online is with '**friends of friends**' and not with complete strangers (Barbovschi *et al.*, 2012).

As for other online risks, therefore, the relationship between risk and harm must be understood within the broader social context in which it is embedded; more specifically, within the patterns of online communication and sociality, within the broader online activities and also, within the broader social context, including offline factors of vulnerability. Therefore, the first step is to understand the patterns of online communication and contact with people met online, and second, to identify the patterns of meeting offline with someone met online.

Figure 26 shows the number of children who have been in contact on the internet with people they have never met face to face before, by gender, age and country:

Figure 26: Child (%) has been in contact with someone not met face to face before



Q37: In the PAST 12 MONTHS, have you ever had contact on the internet (on all platforms/devices) with someone you had not met face to face before? This could have been by email, chatrooms, SNS, instant messaging or gaming sites.  
Base: All children who use the internet.

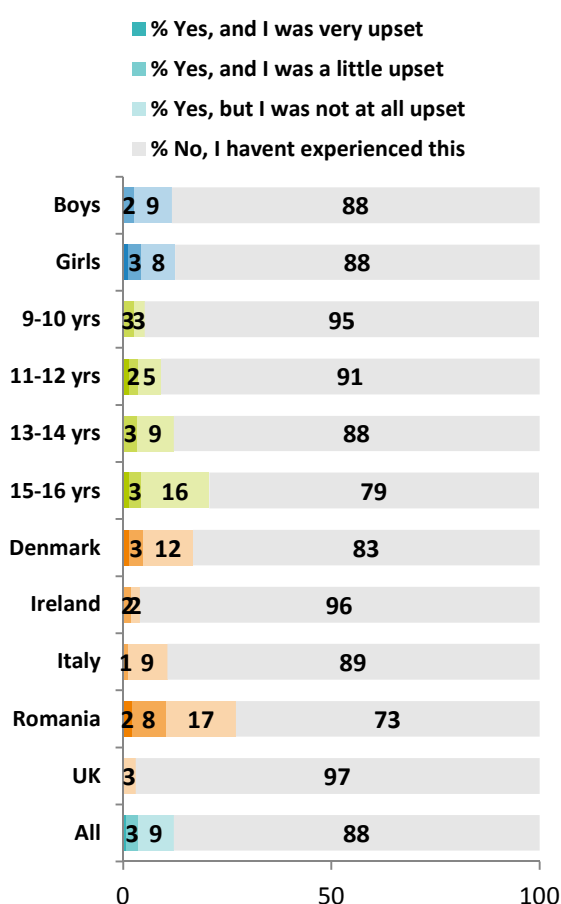
- **One in three children (30%) have had contact online with people they have never met face to face.**
- While gender variations are weak, the age trend is marked: **contact with people met online increases with age, ranging from 17% of children aged 9-10 to 44% of teenagers aged 15-16.**
- **Country variations are also remarkable:** children in **Denmark** (49%) and **Romania** (41%) are considerably more likely to be in contact on the internet with someone they haven't met face to face. Contact with people met online is less common in the other

countries, concerning one in five children in **Ireland** (22%) and **Italy** (22%), and even less in the **UK** (17%).

Contact with people met online is not negative or risky *per se*: rather, it often provides children with an opportunity to share interests and hobbies (Ito *et al.*, 2009). Moreover, not every online contact leads to an offline encounter, and more importantly, not every face-to-face meeting with someone met on the internet has harmful consequences.

Figure 27 shows how many children have gone to meet offline someone they first met online, and whether they were bothered by this experience.

**Figure 27: Child has gone to an offline meeting with, someone not met face to face before**



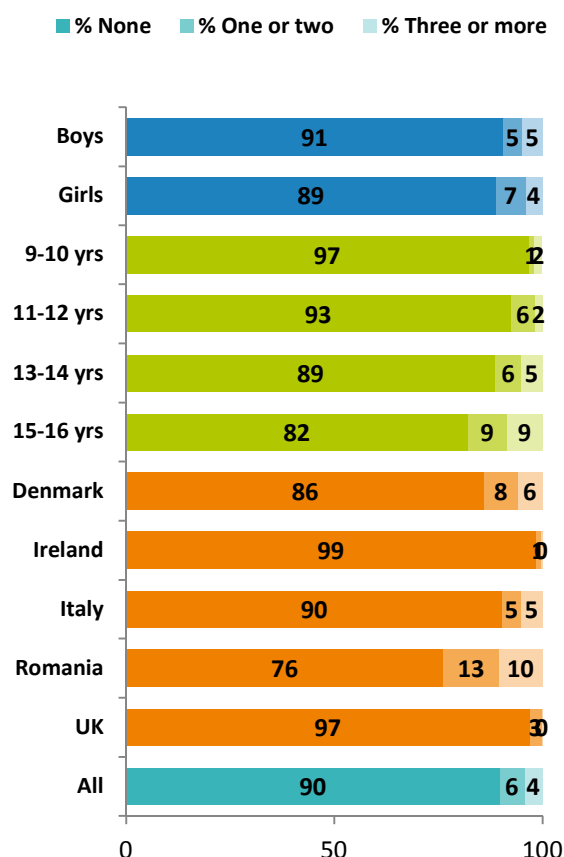
Q39: In the PAST 12 MONTHS, have you ever gone on to meet anyone face to face who you had first met on the internet, and if so, were you at all upset by what happened or wish that you had not done it?

Base: All children who use the internet.

- **12% of children say they have met someone face to face they first met on the internet, and for 3%** (one in four of whom had such meetings) **this made them 'very' or 'a little' upset.**
- While there is no difference in the number of girls and boys who went to such meetings, girls are just a little bit more likely to have had a negative experience.
- **Meeting online contacts offline increases with age**, rising from 5% of the youngest to 21% of the oldest age group.
- As for online contacts with people never met face to face, **the likelihood of an offline encounter also varies substantially across countries: Romanian children** are more likely to meet someone face to face they met online (27%) and more likely to be bothered (10%); going to an offline meeting with someone met online is also common in **Denmark** (17%), but harmful experiences are lower (5%). A total of 11% of **Italian children** go and meet their online contacts, but just two in ten are 'a little' upset after this meeting, while 4% of **Irish children** have gone to an offline meeting of this kind but half of them were 'a little' upset. Finally, meeting online contacts offline is lowest in the **UK** (3%), and for none of the respondents in this country has it had any harmful consequences.

Figure 28 shows the number of online contacts children have gone on to meet offline, and confirms what has already been shown in Figure 27, that it is uncommon for children to go on to a face-to-face meeting with online contacts. But those who have done this have **in most cases met only one or two people. The number of people met in this way varies by country and age.** Children in Denmark and Romania have met more online contacts offline, and older children have gone on to meet more contacts than the younger ones.

Figure 28: Number of online contacts children have gone on to meet offline, by gender, age and country



Q40: In the PAST 12 MONTHS, how many people have you gone on to meet face to face (who you had previously only met on the internet)?

Base: All children who use the internet.

Therefore, considering that **the relationship between risk and harm is complex** and not linear, as we have seen, even countries where meeting online contacts offline is less common may still benefit from awareness-raising initiatives and safety programmes that promote a responsible management of online contacts.

There are many ways in which children get in touch with people online that they then meet offline, as shown in Table 42.

Table 42: Ways in which children first contacted someone they later met offline, by age

	Age				All
	9-10	11-12	13-14	15-16	
%					
By mobile phone calls	1	2	3	9	4
By text messages sent to phone	1	1	3	8	3
On a SNS	0	5	5	14	6
On a media sharing platform	0	0	0	0	0
By instant messaging	0	1	1	4	2
In a chatroom	0	0	1	1	1
By email	1	1	0	1	1
On a gaming website	1	1	2	2	2

Q41: If you have gone on to meet people face to face who you met before just on the internet (never face to face), in what ways did you get in contact with them for the first time? (Multiple responses allowed).

Base: All children who use the internet.

- **Children get in touch with people met online who they have later met offline mainly on SNS (6%), by phone calls (4%) or texts received on their mobiles (3%).**
- Age differences are notable: **teenagers aged 15-16** are more likely to contact people met online than other age groups, and tend to do so **on a SNS (14%), by phone calls (9%), texts received on their mobiles (8%) or instant messaging (4%).**

Does the way children contact new people who they will then meet offline change among smartphone and tablet users? Table 43 shows that mobile internet users are more likely to contact people they will then meet offline through various channels. More specifically, smartphone users are more likely than both tablet users and non-users to get in touch for the first time with people they will later meet face to face on SNS, messages on their phones and phone calls.



**Table 43: Ways in which children first contacted someone they met offline, comparing mobile and non-mobile users**

%	Smart-phone users	Tablet users	Use neither
By mobile phone calls	6	4	2
By text messages sent to phone	5	4	3
On a SNS	8	7	6

Q41: If you have gone on to meet people face to face who you met before just on the internet (never face to face), in what ways did you get in contact with them for the first time?

Base: All children who use the internet.

## 6.5 Sexual images

Pornography, and more specifically, the assumed harmful influence of pornography on children, is a contested object of study. Public anxiety originates from the belief that lack of censorship and consequent ease of circulation of pornographic content on the internet turns pornography from ‘under the bed’ into ‘onto your screen’ practice (Rovolis & Tsaliki, 2012, p. 173). However, the **ubiquity of sexual content on the internet** has been discussed in many studies (see, among others, Ey & Cupit, 2011). The EU Kids Online project revealed that only one in four children have come across pornographic content, and just 14% have accidentally or intentionally encountered sexual images online (Livingstone *et al.*, 2011). The data also showed that, while seeing sexual images is more common among boys and older teenagers, younger children and girls are more likely to be bothered from what they have encountered. Overall, just one in three children who have been exposed to sexual content online report being upset after this experience, although cross-cultural variation is considerable (*ibidem*). Based on these findings Rovolis and Tsaliki concludes that, as cultural studies-oriented approaches have been arguing for some time (Attwood & Smith, 2011; Buckingham & Bragg, 2004), the concern for the negative effect of pornography is exaggerated in media panics.

Drawing on the EU Kids Online methodology, questions about pornography were introduced in the following way: ‘In the past year, you will have seen lots of different images – pictures, photos, videos. Sometimes, these might be obviously sexual – for example, showing people having sex, or naked people in sexy poses.<sup>10</sup> You might never have seen anything like this, or you may have seen something like this on a mobile phone, in a magazine, on the TV, on a DVD or on the internet, on whatever device you use to go online’.

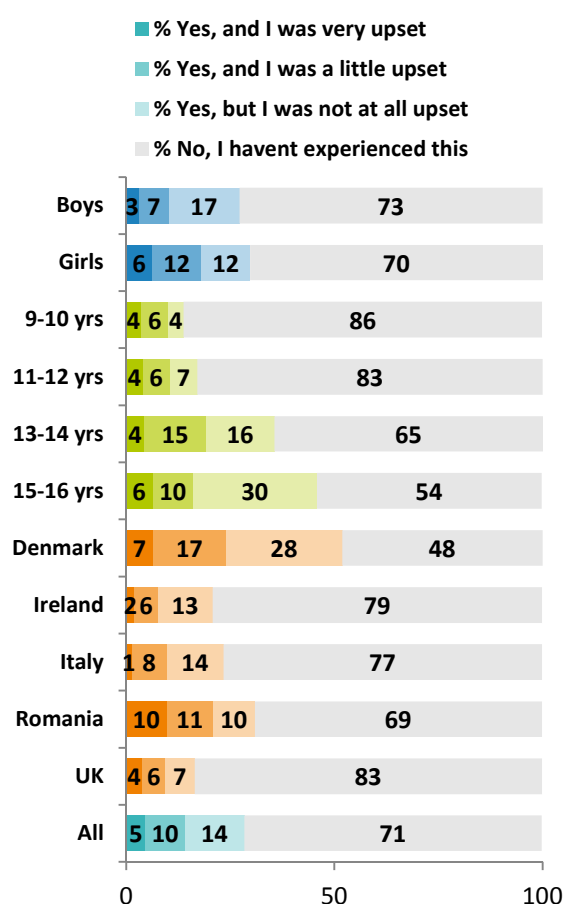
Figure 29 shows how seeing sexual images on and offline varies by gender, age and country.

- Overall, 29% of children say that they have seen sexual images in the past 12 months, whether online or offline.
- **Seeing sexual images** is partially related to gender – with 30% of girls who have reported this experience against 27% of boys – and more strongly **related with age: 46% of older teenagers have seen sexual images in the past 12 months compared to 14% of younger children.**
- Children in different countries have different likelihoods of experiencing sexual content: **the greatest exposure to sexual images is among children in Denmark (52%) and Romania (31%).** Lower exposure is reported in **Italy (23%), Ireland (21%) and the UK (17%).**

<sup>10</sup> The original text in the EU Kids Online questionnaire stated: ‘In the past year, you will have seen lots of different images – pictures, photos, videos. Sometimes, these might be obviously sexual – for example, showing people naked or people having sex’. We changed it into ‘naked people in sexy poses’ because cognitive testing and researchers’ experience suggested that naked images are not necessarily associated with pornographic material in all countries.



Figure 29: Child has seen sexual images online or offline in the past 12 months



Q35: In the PAST 12 MONTHS, have you seen anything of this kind, and if so, how upset were you by what you saw?

Base: All children who use the internet age 11-16.

- While overall one in three children have experienced sexual content on- or offline, **15% of children (that is, half of those who encountered sexually explicit images) were bothered by this experience.**
- While, as we have seen, girls and boys are equally exposed to sexual images, **girls are more likely to be 'very' (6%) or 'a little' (12%) upset** by what they have seen.
- The relation between risk and harm varies by age:** two thirds of children aged 9-10 who had seen sexual content report being bothered by this; more than half of the girls and boys aged 11-12 and 13-14 have been harmed; while just one in three children who are 15-16 years old report being upset.

- The same complex relation can be observed **across countries:** while **Denmark** has the highest incidence of exposure, less than half of Danish children who have seen sexual content report being upset (24%). In the other countries, although the overall experience of sexual content is lower, the proportion of children who report harm is higher than in Denmark, ranging from 21% of **Romanian children**, to 10% in the **UK**, 9% in **Italy** and **8%** in Ireland. It appears, therefore, that **British children are more likely to be bothered** by what they have seen.

Table 44 shows the ways in which children have seen sexual images by age:

Table 44: Ways in which children have seen sexual images, by age

	Age				All
	9-10	11-12	13-14	15-16	
%					
In a magazine or book	1	2	5	10	4
On television, film	6	5	13	16	10
On a video sharing platform	3	2	4	12	5
On a photo sharing platform	0	1	2	6	2
By pop-ups on the internet	1	4	11	15	8
On a SNS	0	4	9	14	7
By instant messaging	0	0	1	4	1
In a chatroom	0	0	1	2	1
By email	0	1	0	2	1
On a gaming website	1	0	2	1	1

Q36: If you have seen images of this kind, how did it happen? (Multiple responses allowed).

Base: All children who use the internet.

- Television and films (16%) are still the most common way of seeing sexual images, followed by pop-ups on the internet (15%), SNS (14%) or video sharing platforms (12%).**
- Although the trend for increasing exposure with age is strong, it does not vary much by medium, the only difference being that the

youngest are more likely to have this experience on video sharing platforms compared to SNS. Overall, **as children grow older, they are more likely to see sexual images across all media.**

Table 45 shows how the way children are exposed to sexual content varies across mobile and non-mobile internet users: overall, **smartphone users are more exposed to sexual content offline and online** than both tablet users and children who don't use smartphones or tablets to go online.

**Table 45: Ways in which children have seen sexual images, comparing mobile and non-mobile internet users**

%	Amongst smartphone users	Amongst tablet users	Use neither
On television, film	14	11	7
By pop-ups on the internet	13	11	4
On a SNS	12	10	3

Q36: If you have seen images of this kind, how did it happen? (Multiple responses allowed).

Base: All children who use the internet.

To sum up, exposure to sexual images continues to be a rather common experience offline and online. While older children, boys and children living in countries where this experience is more common are generally more resilient, younger children, girls and children in countries where seeing sexual content affects only a minority of children are usually more vulnerable to the harmful consequences of sexual content.

## 6.6 Other inappropriate content

Social media enable an unprecedented circulation of user-generated content (UGC). While the creation and sharing of content is a primary opportunity of the so-called Web 2.0, and an important component of digital literacy, some UGC is arguably problematic: content that promotes eating disorders, self-harm behaviour and drug

consumption, along with online materials that promote discrimination and violence against certain groups are among the main examples of **negative user-generated content** (NUGC). While there is some evidence that exposure to NUGC is a rather common experience for children (Livingstone *et al.*, 2011), it has received less attention among policy makers and researchers than bullying, sexting, meeting strangers or pornography.

We asked children: 'In the past 12 months, have you seen websites where people...' For ethical reasons, this question was not addressed to 9- to 10-year-olds.

Table 46 shows what kind of problematic content children have come across, and how this varies by age.

**Table 46: Child has seen potentially harmful user-generated content on websites in past 12 months, by age (age 11+)**

% seen websites in past 12 months where people...	Age				All
	9-10	11-12	13-14	15-16	
Discuss ways of physically harming or hurting themselves	n/a	8	12	20	13
Discuss ways of committing suicide	n/a	5	7	9	7
Discuss ways of being very skinny, anorexic or bulimic	n/a	12	19	20	17
Publish hate messages that attack certain groups or individuals	n/a	13	22	34	23
Talk about or share their experiences of taking drugs	n/a	6	10	19	12
Has seen any such material at all on websites	n/a	21	30	42	31

Q44: In the PAST 12 MONTHS, have you seen websites where people discuss...

Base: All children who use the internet aged 11-16.

Overall, **31% of children report seeing potentially harmful UGC online** – indicating that exposure to NUGC has increased (it was 24% in 2010 considering only these countries).

- Across all age groups, **children encounter hate and discriminatory messages (23%) and anorexic or bulimic content (17%) more** than they do self-harm sites (13%) or sites where people share their experiences with drugs (12%). Although a smaller percentage, it is nevertheless noteworthy that 7% encounter suicide sites (5%).
- Seeing negative UGC increases with age:** 21% of children aged 11-12 have encountered one or more of the NUGC Table 46 compared with 42% of those aged 15-16.

## 6.7 Other risks

Other risks include: commercial, such as losing money by being victims of online fraud; technical, namely, viruses and malicious software; and risks connected to the **misuse of personal information**. The latter comprise of having an email account or SNS profile hacked or violated (as in Facebook rape, or **‘Frape’**); the misuse of personal information and photos by people pretending to be the victim (e.g. through the creation of **fake profiles**); and people pretending to be someone else or **‘catfishing’**. While the literature on this issue remains sparse, there is some evidence that the misuse or abuse of personal data deserves attention. The EU Kids Online data show that 9% of children aged 11-16 have experienced one or more of the three forms of personal data misuse investigated, with someone using the child’s password or pretending to be them the most common experience. Similarly, the qualitative fieldwork currently carried out by the Net Children Go Mobile researchers indicates that risks related to personal data are among the major concerns of children.

Table 47 shows the distribution of other risks across age groups:

**Table 47: Child has had other negative online experiences in the past 12 months, by age**

% seen websites in past 12 months where people...	Age				All
	9-10	11-12	13-14	15-16	
Somebody used personal information in a way they didn't like	4	4	3	6	4
The computer got a virus	19	16	25	30	23
The mobile phone/smartphone got a virus	2	3	3	5	3
lost money by being cheated on the internet	2	2	1	4	2
Somebody used their password/used their phone, accessed their phone to access information or to pretend to be them	3	4	6	11	6
Experienced one or more of the above	22	19	28	36	27

Q45: In the PAST 12 MONTHS, has any of the following happened to you on the internet/on your smartphone/mobile phone?

Base: All children who use the internet.

- Viruses** are a risk encountered by **one in four children**, and one that increases with age, ranging from 19% of younger children to 30% of older teenagers. By contrast, getting a virus on a smartphone has been reported by only a minority of children (3%), although it is more common in the oldest age group.
- Among risks associated with personal data misuse, **children are more likely to experience privacy-related risks on their smartphones** (e.g. people accessing their personal information, or pretending to be them). Although just a minority of children are exposed to this risk (6% overall), this rises to **11% of teenagers aged 15-16**.
- Having someone using their information in a way they didn't like or losing money after being cheated on the internet are less common, perhaps suggesting that children have learned

how to prevent these problematic situations.

- We can observe a marked trend in age, with older teenagers being exposed more to all the risks we asked about.

While the data presented in Table 47 are somewhat comforting, we must not underplay the relevance of risks associated with personal data misuse: as the qualitative material we are collecting shows, children seem particularly sensitive to privacy issues.

## 6.8 Responding to risks

Most online experiences do not prove harmful, even because children do not perceive them as dangerous or problematic (Livingstone *et al.*, 2012; Vandoninck, d’Haenens & Roe, 2013). However, when they encounter a negative experience on the internet, children engage in a set of strategies to adapt to the problematic situation and to reduce emotional and psychological stress. **Online coping** can be defined as ‘**internet-specific problem-solving strategies children adopt after a negative experience online**’ (Vandoninck *et al.*, 2013, p. 61). The EU Kids Online survey (Livingstone *et al.*, 2011) identified three main coping strategies: **passive responses**, that include fatalistic (stop using the internet for while) and self-accusatory responses (feeling guilty about what happened); **proactive responses** (such as reporting inappropriate content and contact, blocking the unwanted contact, etc.); and **communicative responses** (talking with parents, peers, teachers or other trusted adults about what happened). Learning how to cope with negative experiences in an effective way – and which are the most effective responses for any particular situation – is part of the process of building **resilience** (Vandoninck *et al.*, 2013).

Responding to online risks by seeking support from social networks is the most common coping strategy adopted by children, although in most cases they tend to combine two strategies (Livingstone *et al.*, 2011).

In this chapter we focus on communicative responses to online risks. Indeed, prior research has proved that children who receive greater support from their peers are more resilient to online negative experiences, and both parents and teachers are in a position to mediate children’s online resilience, provided that they engage in actively mediating children’s online activities and safety (Vandoninck *et al.*, 2013).

Therefore, we asked children, ‘*If you were to experience something on the internet or when you were online from different devices that bothered you or made you upset, how likely or unlikely is it that you would talk with the following people?*’

Table 48 shows how likely children are to talk about their negative online experiences with various people: **mothers (66%), friends (55%) and fathers (49%)** represents the sources of social support to whom children are ‘**very**’ or ‘**rather**’ likely to turn to when they had any online experience that made them feel upset. By contrast, **the majority of children say it is ‘very’ or ‘rather’ unlikely that they would talk to teachers (65%) or youth workers (62%)** and other adults whose job it is to help children when they have a negative online experience.

**Table 48: How likely it is for children to talk about things that bothered them on the internet**

%...	Very likely	Rather likely	Rather unlikely	Very unlikely	Does not apply
Father	27	22	18	21	13
Mother	41	25	13	13	9
Brother or sister	17	20	18	24	21
Other relatives	6	13	25	39	17
Friends	25	30	18	18	9
Teachers	5	11	19	46	19
Someone whose job is to help children	6	10	17	45	23
Another trusted adult	8	21	18	36	19

Q48: If you were to experience something on the internet or when you were online from different devices that bothered you or made you upset, how likely or unlikely is it that you would talk with the following people?

Base: All children who use the internet.

Table 49 shows how the likelihood of children talking to someone after a negative online experience varies across age groups and by gender:

**Table 49: Children who are very likely to talk about things that bothered them on the internet, by age and gender**

%...	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
Father	38	32	23	15	27
Mother	46	59	25	36	41
Brother or sister	17	17	11	23	17
Other relatives	8	7	4	6	6
Friends	16	17	26	40	25
Teachers	6	7	2	4	5
Someone whose job is to help children	5	5	6	5	6
Another trusted adult	8	7	8	8	8

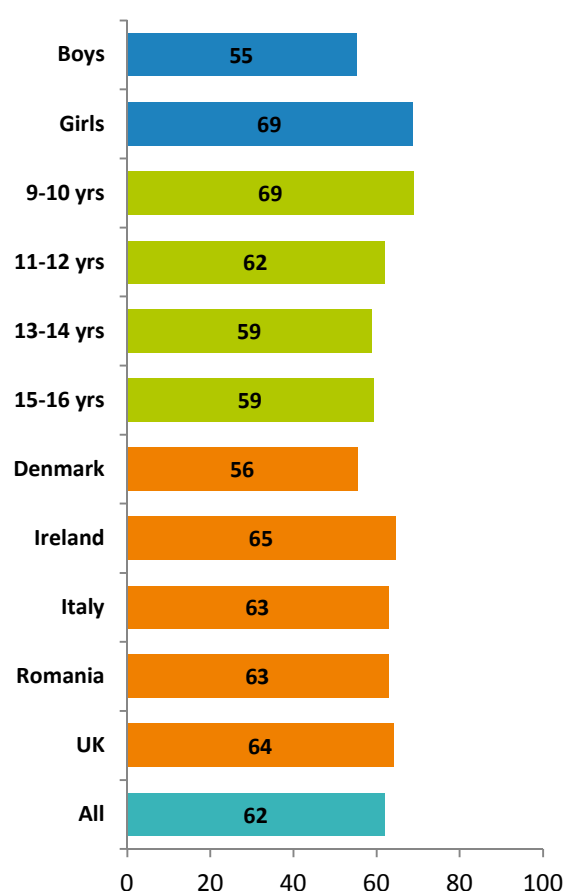
Q48: If you were to experience something on the internet or when you were online from different devices that bothered you or made you upset, how likely or unlikely is it that you would talk with the following people?

Base: All children who use the internet.

- **Younger children are more likely to talk to their parents than anyone else, with girls more likely to turn to mothers and boys seeking more support from fathers.**
- **The importance of parents as the primary source of social support** in case of something upsetting on the internet **decreases with age**: teenagers are more likely to seek support from their peers with important variations by gender. So **teenage girls are more likely to talk with their friends and still more likely to turn to their mothers.**
- While children are not generally used to talking with their teachers, younger children are more inclined to indicate teachers as a very likely source of support than teenagers, who, Conversely, put more trust in youth workers, counsellors, etc.

Figure 30 shows that **62% of children are likely to talk with at least one person** when they have a negative online experience:

**Figure 30: Children (%) who are very likely to talk to at least one person about things that might bother them on the internet, by gender, age and country**



Q48: If you were to experience something on the internet or when you were online from different devices that bothered you or made you upset, how likely or unlikely is it that you would talk to at least one of those named in Table 48.)

Base: All children who use the internet.

- Country variations are less pronounced, although **children in Denmark are the least likely to look for social support** after a negative online experience.
- **Gender and age differences are considerable**: younger children (69%) and girls (69%) are more likely than boys (55%) and teenagers (59%) to talk with at least one person about what bothers them on the internet.

While these findings suggest that parents and peer mediation are therefore valued by children and should be promoted within policy initiatives, still

one in three children is not likely to ask for support from parents or peers. Policy makers should aim at ensuring that all children, across all countries, find social support of any kind when they need it.

## 7. Dependence and overdependence

The fear that children might lose control over their use of new media is a key component of media panics over the internet and mobile phones. Moreover, ‘**internet addiction**’ has become an important field of research, as well as a debated issue on the policy agenda. While previous research framed internet addiction as an impulse-control disorder that can be assimilated to other pathological conditions such as gambling, more recent studies adopt a **compensatory model** of internet use, whereby some individuals turn to the internet as a way of escaping from their problems and to compensate for psychological difficulties (Kardefeldt-Winther, 2014). So not all ‘symptoms’ of internet addiction would necessarily be an indicator of a psychological problem; rather, what researchers, policy makers and the public treat as ‘**excessive internet use**’ may signal a new way of life characterised by the embeddedness of the internet in everyday life and novel modes of communication and entertainment, which adults normatively sanction as pathological behaviour (Kardefeldt-Winther, 2014).

The issue of ‘addiction’ is even more problematic when we turn to mobile phones. Mobile communication has indeed become a taken-for-granted condition of our social ecology (Ling, 2012): being accessible to our intimate friends and relatives is not only part of the social expectations we form of one another, but also informs our sense of personal security. Moreover, being able to access the internet on the move helps manage a variety of tasks, including using maps, accessing information in real time, re-arranging meetings ‘on the fly’, etc.

As research on mobile communication has shown, we do not assume that ‘perpetual contact’ (Katz & Aakhus, 2002) is positive *per se* or unproblematic; rather, it may lead to overdependence and a feeling of ‘entrapment’ (Hall & Baym, 2012). Equally we do not exclude excessive and compensatory uses of mobile devices as a means of escaping from

psychological vulnerabilities. Rather, we prefer to speak of **dependence and overdependence**, to suggest that the boundary between intensive and pathological uses of the internet is negotiable and must be contextualised, taking into account individual experiences and vulnerabilities. This expression also helps us recognise the positive consequences of a strong embeddedness of mobile media into everyday life.

### 7.1 Managing the complexity of everyday life

Mobile communication has become an integral part of our social ecology (Ling, 2012), bringing about notable benefits – for example, always being in contact with family and friends, easier management of everyday life activities and mobility, better employment of otherwise ‘dead’ time, etc. – as well as some negative consequences – more stress, and the pressure to be ‘always on’. Therefore, we wanted to measure what, if ever, changes are associated with smartphones in children’s perception. Table 50 shows how true children think a set of items are:

**Table 50: Managing the complexity of everyday life**

	Not true	A bit true	Very true
%			
Since I have had a smartphone I find it easier to organise my daily activities	34	44	22
Thanks to my smartphone I feel more connected to my friends	19	38	43
Thanks to my smartphone I feel more connected to my family	42	37	21
Thanks to my smartphone I feel safer	44	37	19
Since I have had my smartphone I feel I have to be always available to family and friends	27	41	32
Thanks to my smartphone it is easier to do my homework and class assignments	47	38	15
Thanks to my smartphone I feel less bored	16	45	39

Q50: How true are these of you?

Base: All children who own or have for their own use a smartphone.



- **Feeling less bored** is the most notable consequence of smartphones: the majority of children agree ‘a bit’ (45%) or ‘a lot’ (39%) with this statement.
- The second statement children agree with relates to **social access to peers**: most children think it is **‘a bit’ (38%) or ‘very’ (43%) true that they feel more connected to their friends thanks to smartphones**. This confirms that for children, contact with peers represents the main motivation for adopting mobile communication.
- Feeling connected to parents and other family members is also an important, although less common, consequence associated with smartphones: over half of the children claim that it is **‘a bit’ (37%) or ‘very’ (21%) true that they feel more connected to their family**.
- This increased opportunity to keep in touch with one’s social circles not only through SMS and phone calls, but also instant messaging and SNS, also has a notable ‘side effect’, that is, **overdependence: three out of four children think it is true that ‘Since I have had my smartphone I feel I have to be always available to family and friends.’**
- **Two out of three children** believe that **smartphones help them organise their daily activities**.
- **Half of the children** who own smartphones also agree that **smartphones improve their sense of personal safety, and help them do their homework**.

Table 51 shows how agreement with statements regarding the role of smartphones in children’s everyday life varies by age and gender:

**Table 51: Managing the complexity of everyday life, by age and gender**

%...	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
Since I have had a smartphone I find it easier to organise my daily activities	9	14	27	27	22
Thanks to my smartphone I feel more connected to my friends	28	26	49	52	43
Thanks to my smartphone I feel more connected to my family	28	16	20	22	21
Thanks to my smartphone I feel safer	19	22	19	19	19
Since I have had my smartphone I feel I have to be always available to family and friends	30	27	35	33	32
Thanks to my smartphone it is easier to do my homework and class assignments	6	10	18	18	15
Thanks to my smartphone I feel less bored	27	35	46	40	39

Q50: How true are these of you?

Base: All children who own or have for their own use a smartphone.

- Age differences are more notable than gender differences: **teenagers are more likely to agree with each of the statements** except for the feeling of perpetual contact with family, experienced especially by younger boys.
- Indeed, social connectivity afforded by mobile communication is where the major difference between children and teenagers is played out: **teenagers are almost twice as likely to think of smartphones as tools that facilitate a stronger connection with the peer group**.
- Curiously, however, the gap between younger children and teenagers is reduced when it comes to the sense of being required to be

always accessible to parents and friends: **both children aged 9-12 and teenagers aged 13-16 associate smartphones with the pressure to be ‘always on’.**

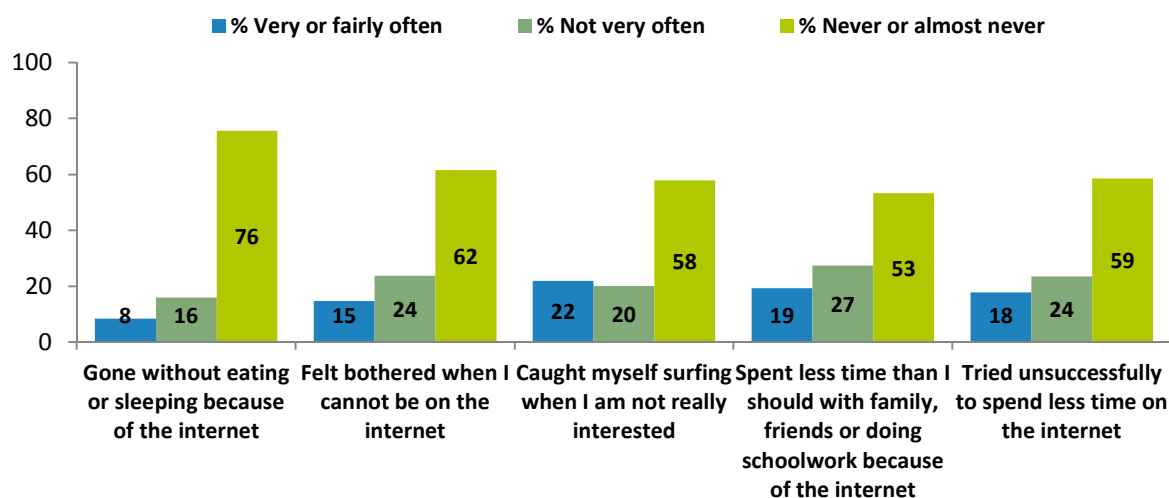
## 7.2 Excessive use of the internet and smartphones

In order to explore excessive internet use and to ensure comparability with the EU Kids Online 2010 survey, the same questions were asked to children to measure potential conflict of internet use with other activities and the experience of unsuccessful attempts to reduce time spent on the internet, as shown in Figure 31.

- The measure of excessive internet use that children are more likely to experience **‘very’ or ‘fairly often’** is **spending time online without being really interested in it** (22%), followed by the feeling of **spending less time than appropriate with family, friends or doing homework** (19%) and the perceived **incapacity to reduce time spent online** (18%).
- Fortunately, two out of three children have never experienced going without sleeping or eating because they were online.

A single experience associated with excessive internet use is not sufficient to measure problematic behaviour.

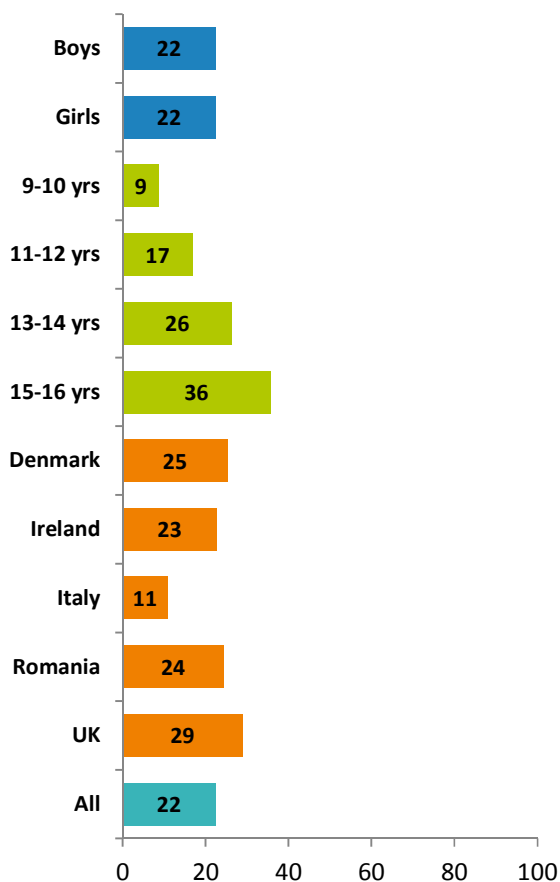
Figure 31: Excessive use of the internet among children



Q46: In the PAST 12 MONTHS, how often, have these things happened to you?  
Base: All children who use the internet.

Figure 32 shows the percentage of children, out of all the children, who answer ‘fairly’ or ‘very often’ to two or more of the five experiences of excessive use, by gender, age and country:

Figure 32: Child (%) has experienced two or more forms of excessive internet use fairly or very often



Q46: In the PAST 12 MONTHS, how often, have these things happened to you? The graph shows the percentage of children who answer 'fairly often' or 'very often' to at least two of the five statements in Figure 31.

Base: All children who use the internet.

- **One in five children have experienced at least two behaviours or feelings associated with excessive internet use**, with no gender differences.
- Age variations are more marked, ranging from **9% of 9- to 10-year-olds to 36% of 15- to 16-year-olds**. That older teenagers are more likely to report two or more experiences of excessive use is no surprise since, as we have seen, the overall use of the internet as well as the number of activities taken up also increases with age. And as the variety of activities done online multiplies, consequently, one gets more likely to be overdependent.

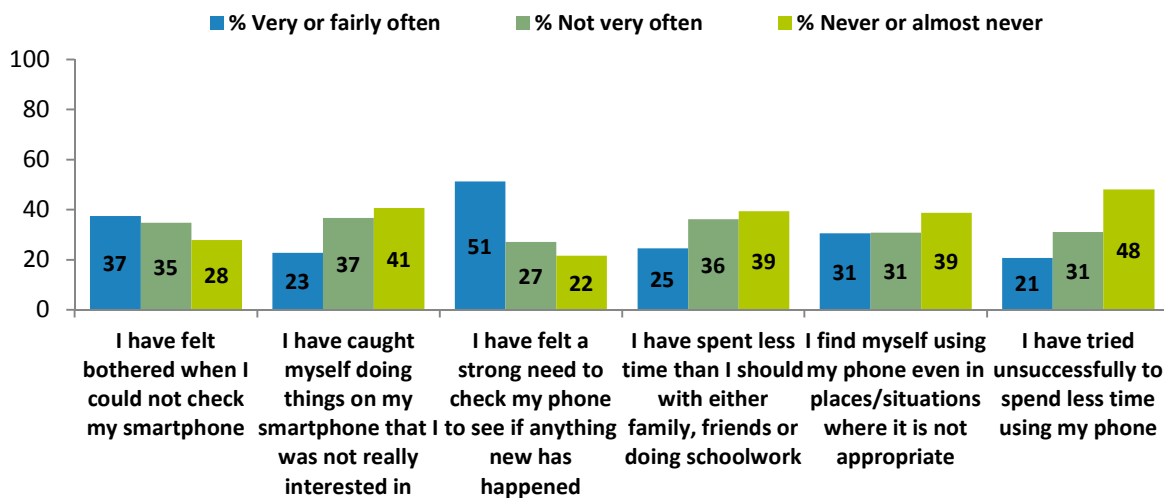
- Differences between countries are usually not considerable, ranging from 23% of children who report two or more experiences of excessive use in Ireland to 29% in the UK, Italy being a notable exception (11%).

Smartphones are portable, always at hand devices to access the internet, which could make the experiences of dependence and overdependence even more diffused, as shown in Figure 33:

- **One in two children** agree with the statement **'I have felt a strong need to check my phone to see if anything new has happened very or fairly often'**.
- **One in three** children have reported feeling **'very' or 'fairly' often bothered when they could not use their phone** because the battery was out of power or they were in a dead zone, **or using their phone in places where it was not appropriate**.
- The feeling of neglecting family, friends and school activities has been experienced 'very' or 'fairly' often by one in four children, as much as the experience of using the phone while not really interested in it.
- Children are least likely to agree with the statement **'I have tried unsuccessfully to spend less time using my phone'**.

These first findings suggest that **children are more likely to develop an overdependent attitude towards their smartphones because of its features**: first, like mobile phones before them, smartphones are perceived among children and adolescents **as 'extensions' of their body**, that can be easily stored in a pocket and carried around all the day long (Vincent & Fortunati, 2009); and second, they support a new mode of communication called 'connected presence' (Licoppe, 2004), associated with a feeling of perpetual contact with friends and family. For these reasons, it is understandable that children feel uncomfortable when they cannot check their phones, or tend to check them every once in a while when they can do so.

Figure 33: Excessive use of smartphones among children



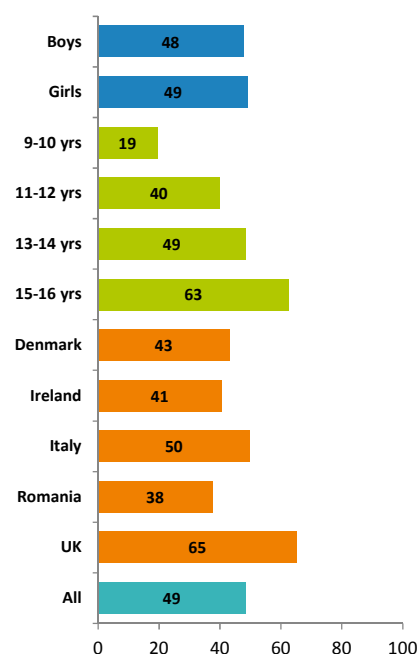
Q49: In the PAST 12 MONTHS, how often, have these things happened to you?  
Base: All children who own or have for their own use a smartphone.

Figure 34 shows the percentage of children, out of all the children, who answer 'fairly' or 'very often' to two or more of the five experiences of overdependence, by gender, age and country:

- **Overall, 49% of have reported two or more experiences associated with dependence and overdependence on their smartphones**, with no gender differences.
- **Overdependence increases with age**, with just 19% of the youngest children experiencing two or more of the items measured, compared to 63% of teenagers aged 15-16. This is no surprise, given that use increases with age, and that dependence on mobile devices is associated with dependence on mobile communication and *anywhere, anytime* social access to the peer group, which, as known, increases through adolescence.
- **Country variations are considerable: children in the UK (65%) and Italy (50%)** are more likely than children in other countries, especially **Romania (38%)**, to agree with two or more statements among the five proposed. We cannot simply assume that British and Italian children are at risk of excessive use of smartphones. Rather, to understand these cultural differences, we should contextualise

variations in overdependence on smartphones within different cultures of childhood – for example, different constructions of children's leisure time, and different gradations of the 'bedroom culture' (Livingstone & Bovill, 2011).

Figure 34: Child (%) has experienced two or more forms of excessive smartphone use fairly or very often



Q49: In the PAST 12 MONTHS, how often, have these things happened to you? The graph shows the percentage of children who answer 'fairly often' or 'very often' to at least two of the six statements in Figure 31.

Base: All children who own or have for their own use a smartphone.

## 8. Mediation

The perspective on risks and opportunities of the internet adopted in this study assumes that children's online experiences are contextualised within intersecting socio-cultural, technological and political spheres. Family, peer cultures and the school context are all influential sources of mediation of children's internet use, whose relevance has been widely recognised within policy debates.

**Parents** have been especially valued for their role in regulating the benefits and risks of the internet for children, primarily within regulatory approaches that promote empowerment and self-regulation (Mascheroni *et al.*, 2013). The role of teachers has also been welcomed, particularly as compensation for parents' low digital literacies in countries with persisting inequalities in adults' access to the internet. Schools are then assumed to be strategic sites of e-safety education (O'Neill & Laouris, 2013). Finally, research has argued that the importance of online and mobile communication in children's everyday life is associated with a growing influence of peer culture in children's socialisation (Pasquier, 2005), against a declining role of both parents and teachers. Researchers emphasise the positive outcomes of peer exchanges, namely, practical guidance and sharing of experience, and policy makers have increasingly recognised the rights of children to be actively involved in the discussion of internet safety issues, and in awareness-raising initiatives (Barbovschi & Marinescu, 2013).

Since teachers' attitudes towards the internet and their engagement in different forms of mediation is also related to schools' policies regarding the internet, wifi networks and use of smartphones, we treat teachers' mediation in a separate chapter on schools (see Chapter 9).

### 8.1 Parents

The EU Kids Online survey (Livingstone *et al.*, 2011; Mascheroni *et al.*, 2013) proposed five main categories of parental mediation:

- 1) **Active mediation of internet use**, where parents engage in activities such as talking about internet content while the child is engaging with it, and sharing the online experience of the child by remaining nearby.
- 2) **Active mediation of internet safety**, where the parent promotes safer and responsible uses of the internet.
- 3) **Restrictive mediation**, which involves setting rules that limit and regulate time spent online, location of use and online activities.
- 4) **Technical restrictions**, that is, the use of software and technical tools to filter, restrict and monitor children's online activities.
- 5) **Monitoring** or checking the record of online activities.

The EU Kids Online findings have shown that, among the five parental strategies examined, only active mediation of internet use and restrictions are associated with lower risk and harm (Dürager & Livingstone, 2012; Mascheroni *et al.*, 2013). However, restrictive measures are also likely to undermine children's digital literacy; indeed, 'restrictions on use and opportunities are the most effective but destructive (in terms of resilience building) means of reducing risks' (Livingstone *et al.*, 2012, p. 331).

Research on parental mediation of children's media use has shown that not all the strategies parents used to regulate children's television viewing could be adapted to the internet, which requires instead more innovative strategies (Clark, 2012; Livingstone & Helsper, 2008; Mendoza, 2009). Similarly, we assume that not all the strategies of parental mediation so far adopted in the regulation of internet use can be enacted regarding the use of

smartphones. Mobile devices are usually perceived as more personal media, and have smaller screens. For these reasons, some of the strategies usually adopted by parents to regulate their children's internet use may be hindered. Monitoring in particular is likely to be more difficult, if not impossible.

Therefore, in this chapter, we focus mainly on the active mediation of internet use and safety, restrictions that apply to the internet in general and to mobile devices more specifically, and the use of technical restrictions on both computers and smartphones.

Table 52 shows the different forms of **active mediation of internet use**, as reported by children, and variations by age and gender:

**Table 52: Parent's active mediation of the child's internet use, by age and gender**

%...	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
Talk to child about what they do on the internet	71	68	56	68	66
Sit with child while they use the internet	52	55	33	40	45
Stay nearby when child uses the internet	73	70	46	54	60
Encourage child to explore and learn things on the internet on their own	50	47	36	37	42
Do shared activities together with child on the internet	44	50	27	27	37

Q53: Does your parent/do either of your parents sometimes...  
Base: All children who use the internet.

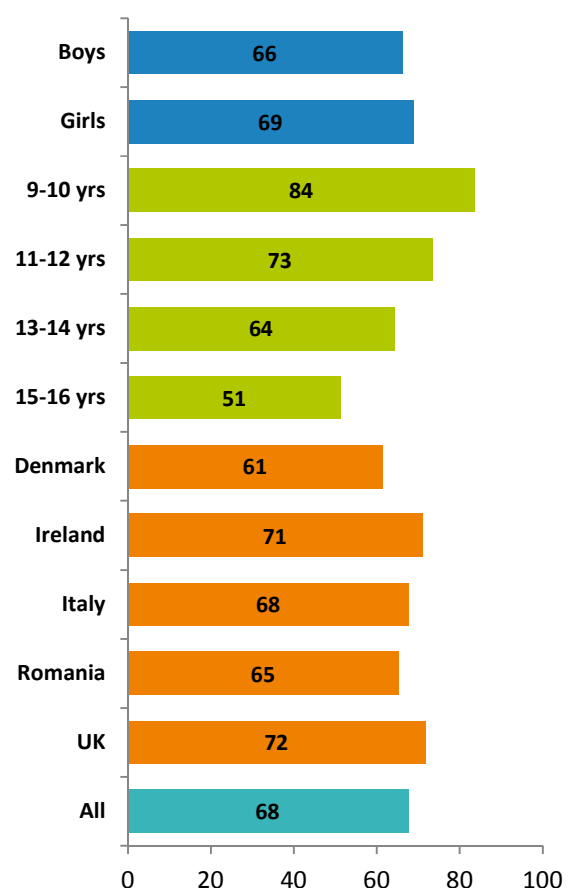
- **Two out of three parents talk to their children about what they do on the internet (66%)**, making this the most popular way to actively mediate children's internet use.
- Second most popular is staying nearby while children are online (60%). Other strategies, such as sitting with the child while online, doing shared activities together or encouraging children to explore and learn things on the internet, are adopted by no more than four out

of ten parents.

- Active mediation is structured by age, with parents doing considerably more active mediation of younger children's use of the internet.
- Gender differences are smaller. However, if we look at the two most popular mediation strategies of this kind, teenage girls are more mediated than boys.

Gender, age and country variations are also presented in Figure 35, which shows the number of children whose parents engage in at least two forms of active mediation of internet use:

**Figure 35: Parent's active mediation (%) of the child's internet use, by gender, age and country**



Q53: Does your parent/do either of your parents sometimes...  
The graph shows the percentage of children who say 'yes' to at least two of the items in Table 52.  
Base: All children who use the internet.

- **The majority of parents (68%) engage in at least two forms of active mediation of internet use, according to their children.**
- Gender differences are very small if non-existent, while **age differences** are more consistent; while 84% of parents whose children are 9-10 years old engage in two or more strategies of active mediation of internet use, just one in two parents of older teenagers do so.
- Country variations are smaller, but still considerable: **parents in the UK (72%) and Ireland (71%) are more likely to actively mediate their children's internet use** than parents in Denmark (61%) and Romania (65%). Italian parents (68%) are average. Lower active engagement with children's online activities by Danish and Romanian parents may be linked to higher number of children in these countries who claim more online skills than their parents.

Parents are more likely to engage in **active mediation of children's internet safety**, as shown in Table 53:

**Table 53: Parent's active mediation of the child's internet safety, by age and gender**

%...	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
Helped child when something was difficult to do or find on the internet	79	83	57	61	70
Explained why some websites were good or bad	72	73	62	69	69
Suggested ways to use the internet safely	72	76	61	68	69
Suggested ways to behave towards other people online	67	72	68	71	70
Helped child in the past when something bothered them on the internet	42	47	32	43	41
In general, talked to child about what to do if something on the internet ever bothered them	59	69	48	63	60

Q54: Has your parent/have either of your parents ever done any of the following things with you?

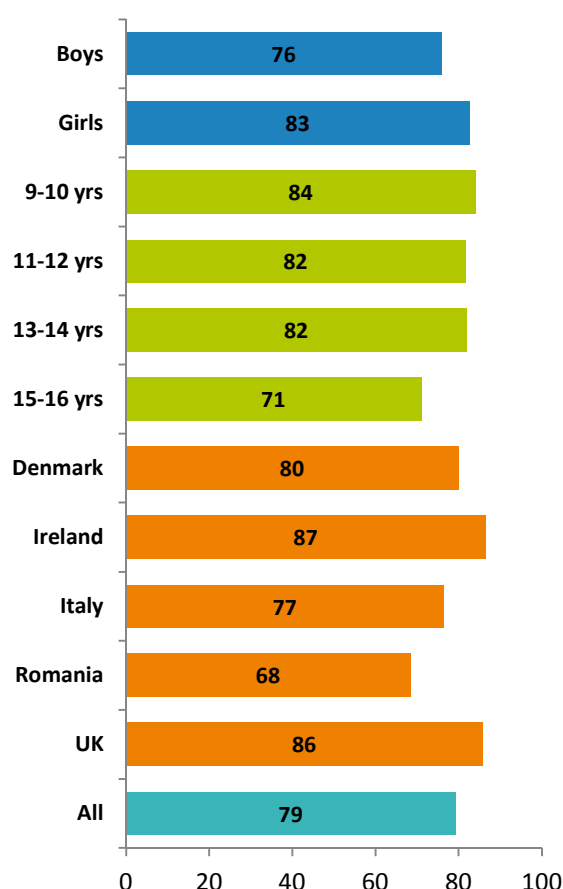
Base: All children who use the internet.

- **70% of parents helped their children when something was difficult to do or find on the internet, and suggested to them how to behave with others online.**
- Equally popular are two other strategies: according to children, **69% of parents explained why some websites were good or bad, or suggested safer internet uses.**
- Other strategies, such as talking to children about negative online experiences, or helping them when something had bothered them online, are only adopted by 60% and 41% of parents respectively.
- Age and gender patterns are similar to those observed with respect to active mediation of internet use (Table 52): younger children and teenage girls are more mediated than older boys. However, the difference between the two age groups is smaller than in the case of active mediation of internet use.

Figure 36 shows the number of children whose parents engage in at least two forms of active mediation of internet safety:



Figure 36: Parent's active mediation (%) of the child's internet safety, by gender, age and country



Q54: Has your parent/have either of your parents ever done any of the following things with you? The graph shows the percentage of children who say 'yes' to at least two of the items in Table 53.

Base: All children who use the internet.

- **Most parents (79%) engage in two or more forms of active mediation of internet safety.**
- **Gender variations** are considerable, with parents mediating girls more.
- Equally, **active mediation of internet safety is structured by age**: over 82% of parents of children aged 9-14 mediate children's online safety in at least two of the forms of mediation, compared to just 71% of older teenagers.
- **Parents in Ireland (87%) and the UK (86%) are more likely to engage in two or more forms of mediation of children's internet**

**safety than parents in Romania (68%).** Parents in Denmark and Italy are average.

Table 54: shows what kind of restrictive measures parents are likely to adopt, by age and gender:

Table 54: Parents restrict child's internet use, by age and gender

%...	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
Download music or films from the internet	32	31	5	5	18
Watch video clips on the internet	16	16	4	2	9
Have own social networking profile	47	49	7	10	27
Give out personal information to others on the internet	71	76	38	45	57
Upload photos, videos or music to share with others	51	48	14	7	29
Download free apps	29	29	9	8	18
Purchase apps	66	71	40	49	56
Register geographical location	73	73	33	40	54
Use instant messaging	49	44	15	15	30

Q55: For each of these things, please tell me if your parents CURRENTLY let you do them whenever you want, or let you do them but only with permission or supervision, or NEVER let you do them.

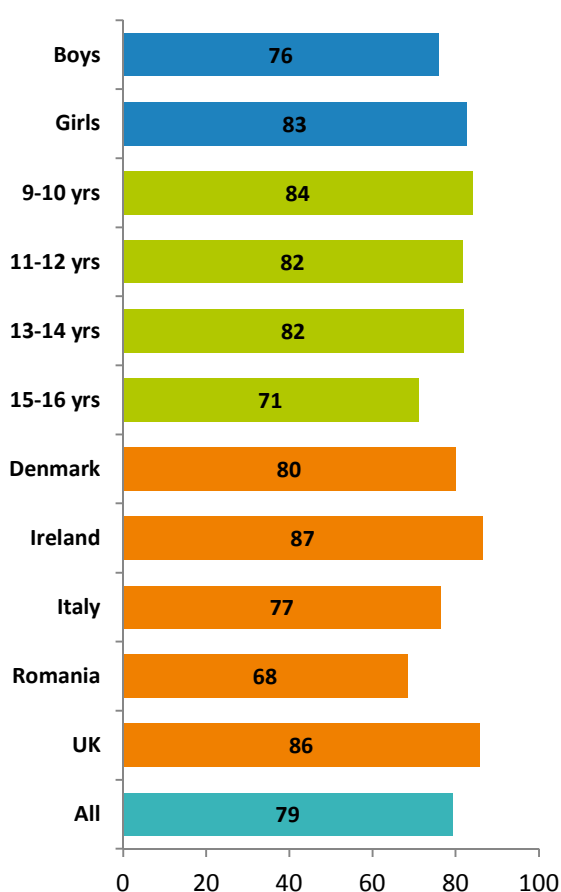
Base: All children who use the internet.

- The most common restrictive measure parents adopt, according to their children, applies to **disclosing personal information, with 57% of children saying they are never allowed to do this.**
- **56%** of children say they are **not allowed to purchase apps**, and **54%** are **not allowed to register their geographical position**. This suggests that **restrictive mediation of smartphone use** is quite diffused among parents.
- Other rules are adopted by one in three parents or less, the least common being not allowing children to watch video clips online.

- As already noted regarding other mediation strategies, restrictions apply especially to younger children. **Just one in two parents don't allow children aged 9-12 to have a profile on SNS.**
- Gender differences are smaller, but teenage girls are more likely to be restricted when it comes to sharing personal information on the internet, purchasing apps and using location-tracking services.

Figure 37 shows the number of parents who adopt at least two forms of restriction, by gender, age and country.

**Figure 37: Parent's restrictive mediation (%) of the child's internet use, by gender, age and country**



Q55: For each of these things, please tell me if your parents CURRENTLY let you do them whenever you want, or let you do them but only with permission or supervision, or NEVER let you do them. The graph shows the percentage of children who say 'can never do this' to at least two of the items in Table 54.  
Base: All children who use the internet.

- Restrictive mediation is as common as active mediation of children's internet safety: according to the children, **79% of parents adopt two or more forms of restrictive mediation.**
- Restrictive measures are strongly structured by gender**, as well as **by age**: girls (83%) and the youngest children (84%) are more likely to be restricted in their online activities than boys (76%) and older teenagers (71%).
- When looking at country differences, again **children in Ireland (87%) and the UK (86%) are more restricted than their peers in Denmark (80%), Italy (77%) and Romania (68%).**

Table 55: shows the use of parental controls and other technical tools to restrict and monitor children's internet use, by age and gender:

**Table 55: Parent's technical mediation of the child's internet use, by age and gender**

	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
Parental controls or other means of blocking or filtering some types of website	33	28	20	23	25
Parental controls or other means of keeping track of the websites visited	31	31	17	21	24
A service or contract that limits the time child spends on the internet	13	19	8	12	13
Software to prevent spam, junk mail, viruses	48	56	47	47	49

Q56: As far as you know, does your parent/do your parents make use of any of the following for the computer that you use the MOST at home?

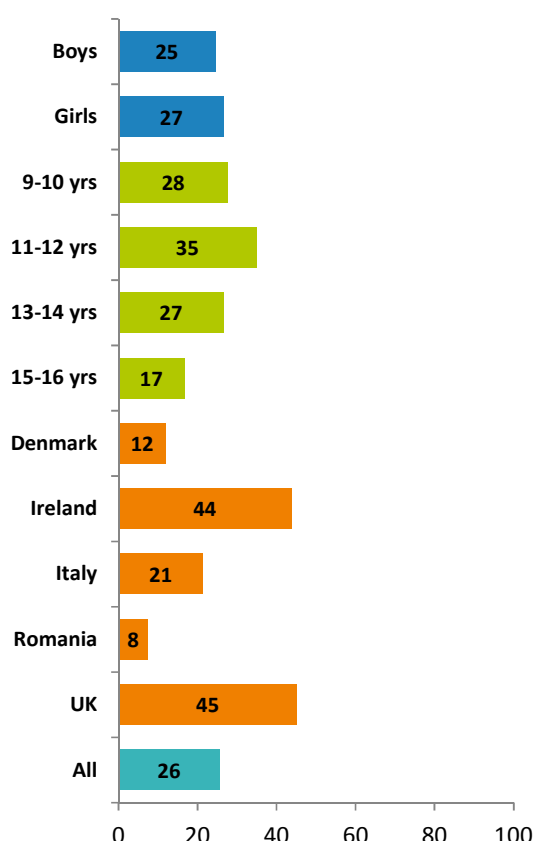
Base: All children who use the internet.

- Overall, the findings are consistent with what has already been noted in prior studies, such as the EU Kids Online 2010 survey (Livingstone *et al.*, 2011), in pointing that **technical mediation is the least favoured mediation strategy by parents.**

- The most common form of technical mediation is using **software to prevent viruses and spam (49%)**. The major form of technical intervention, therefore, does not relate to safety concerns but rather to security.
- **Parental controls** are less common, used by **one in four parents**. Finally, just 13% of parents adopted software that limits the time the child spends on the internet.
- Overall, parents of younger children are slightly more likely to adopt software to regulate their children's internet use.

As shown in Figure 38, **just one in four parents adopt at least two forms of technical mediation**, according to their children:

**Figure 38: Parent's technical mediation (%) of the child's internet use, by gender, age and country**



Q56: As far as you know, does your parent/do your parents make use of any of the following for the computer that you use the MOST at home? The graph shows the percentage of children who say 'yes' to at least two of the items in Table 55. Base: All children who use the internet.

- While gender differences are small, **parents of younger children** are more likely to adopt at least two forms of technical mediation than parents of teenagers aged 15-16.
- At the same time, **country variations are considerable**: technical mediation is more likely to be adopted by British (45%) and Irish (44%) parents, and least common in Denmark (12%) and Romania (8%). One in five parents in Italy employs software to restrict their children's internet use.

Table 56 shows the use of technical mediation - that is parental controls and other software - to regulate children's smartphone use, by age and gender:

**Table 56: Parent's technical mediation of the child's smartphone use, by age and gender**

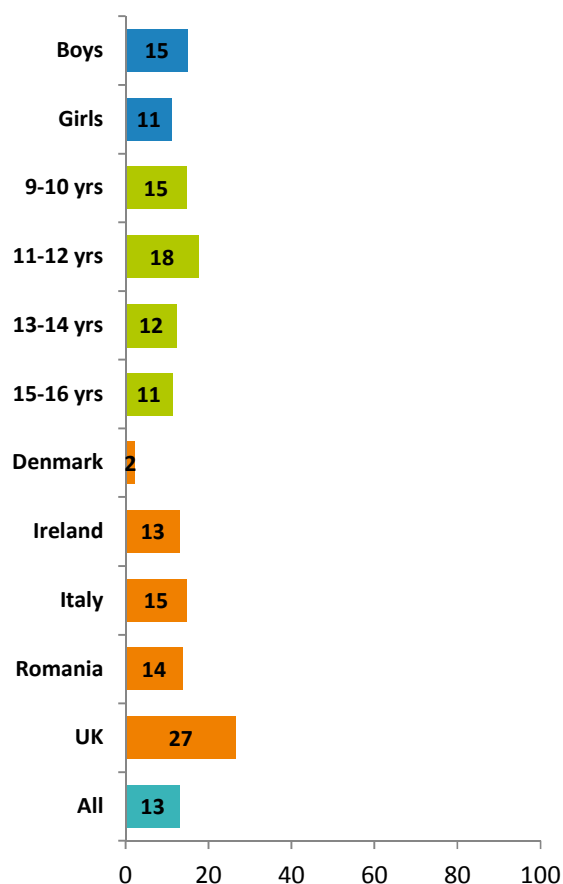
%...	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
Parental controls or other means of blocking or filtering some types of websites	24	11	15	16	16
Parental controls that filter the apps child can download	21	22	10	9	13
A service or contract that limits the time child spends on the internet	21	25	16	18	19
Software that limits the people child can be in touch with	11	12	9	11	11

Q57: Are any of the following installed on your smartphone?  
Base: All children who own or have for their own use a smartphone.

- **Parents are even less likely to engage in any form of technical mediation to restrict activities on smartphones**: none of the four strategies asked about is practised by more than one in five parents.
- Younger children tend to be more restricted by means of technical tools than teenagers.

Figure 39 shows the number of parents who, according to their children, adopt one or more forms of technical mediation on children's smartphones:

Figure 39: Parent's technical mediation (%) of the child's smartphone use, by gender, age and country



Q57: Are any of the following installed on your smartphone? The graph shows the percentage of children who say 'yes' to at least two of the items in Table 56.

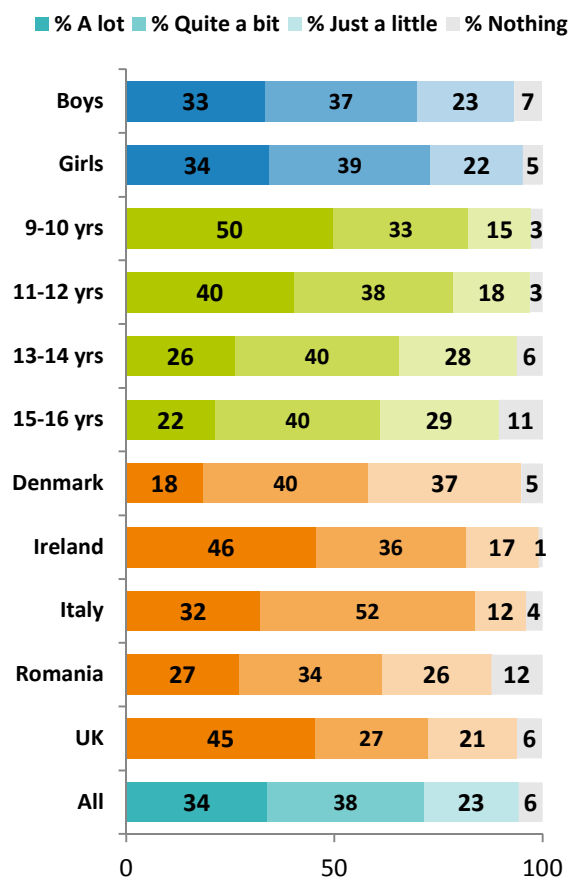
Base: All children who own or have for their own use a smartphone.

- Overall, **just one in ten parents adopt two or more technical tools to restrict their children's use of smartphones.**
- Gender and age differences** are smaller compared to the other mediation strategies analysed in this section: overall, boys and children aged 9-12 are slightly more likely to be restricted by means of software installed on their smartphones.
- The number of parents who adopt at least two measures of technical mediation on children's smartphones rises to **one in four British parents**, and is **least in Denmark (2%)**.

Comparing all forms of mediation parents engage in, we can conclude that **parents in Ireland and the UK are more likely to engage in all the types of mediation** asked about, and **Romanian children the least likely to receive any form of mediation** of their use of the internet. **Danish parents score lower** than Romanian parents when it comes to **technical mediation**, but **tend to engage more in restrictive and active mediation of safer internet use**. Similarly, of the types of mediation asked about, **Italian parents favour restrictions and active mediation of internet safety**, while **the adoption of technical tools and parental controls remains very low**.

Is the differential adoption of various mediation strategies influencing how much parents know about what their children do on the internet? Figure 40 shows how much parents know about their children's internet use, according to the children, by gender, age and country:

Figure 40: How much the child thinks their parents know about what they do on the internet, by gender, age and country



Q51: How much do you think your parent(s) knows about what you do on the internet? Would you say a lot, quite a bit, just a little, or nothing?

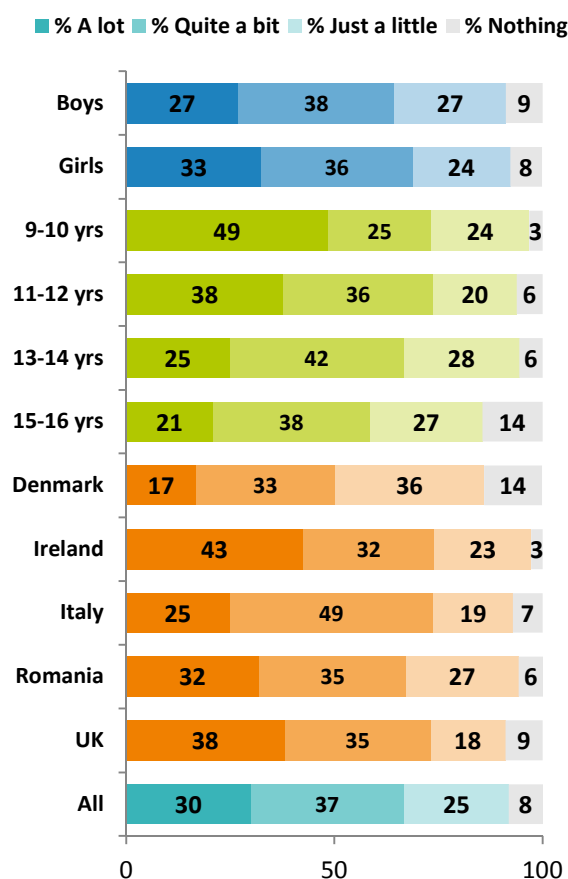
Base: All children who use the internet.

- Overall, **two out of three children think their parents know ‘a lot’ (34%) or ‘quite a bit’ (38%)** about what they do on the internet.
- Girls are slightly more likely to say that their parents are informed of what they do online.
- Age variations** are even more pronounced, ranging from 83% of 9- to 10-year-olds to 62% of 15- to 16-year-olds who claim their parents know what they do on the internet.
- The perception of parents being informed about their online activities varies consistently across countries, in a way that can be associated with trends regarding parental mediation strategies. Although it is not the

country where more mediation is exercised by parents, **Italy** is the country where **the highest number of children (84%) think their parents know ‘a lot’ (32%) or ‘quite a bit’ (52%)** about what they do on the internet. If we look just at **the likelihood that parents are ‘very’ informed** about their children’s online activities, then **Ireland (46%) and the UK (45%)** – the countries where parents engage in more mediation overall – lead. Countries where children are less mediated are also the countries where the lowest proportion of children think their parents know ‘a lot’ or ‘quite a bit’ about what they do on the internet.

Figure 41 shows how much parents know about children’s smartphone use, by gender, age and country. While it clearly follows the same patterns observed about knowledge of online activities – with girls, younger children and children in Ireland, Italy and the UK more likely to say that their parents are informed about what they do on their smartphones – generally **parents’ knowledge of what their children do on their smartphones (67%) is lower than their knowledge regarding the internet (72%)**, suggesting that **smartphones are perceived as more private media**. This is true across all age groups, gender and countries, **one exception being Romania**, where children think their parents are more likely to know what they do on their smartphones (67%) than what they do on the internet (61%).

**Figure 41: How much the child thinks their parents know about how they use their phone, by gender, age and country**



Q52: How much do you think your parent(s) knows about how you use your phone/smartphone? Would you say a lot, quite a bit, just a little, or nothing?

Base: All children who own or have for their own use a smartphone.

## 8.2 Peers

Support from peers is positively associated with online opportunities and digital literacy; especially for younger children, friends are often the main reason for taking up creative and interactive activities such as social media and blogging (Kalmus, von Felitzen, & Siibak, 2012). The effects of peer mediation on online risky and harmful experiences are, instead, less clear: the EU Kids Online findings suggest that peer mediation is more likely to follow after negative experiences (*ibidem*).

Here we investigate how children perceive their peers to engage in forms of active mediation of internet safety.

Table 57 shows how peers engage in active mediation of children's internet safety, by age and gender:

**Table 57: Friends' active mediation of child's internet safety, by age and gender**

	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
%...					
Helped when something was difficult to do or find on the internet	61	54	73	78	67
Explained why some websites were good or bad	27	32	39	44	36
Suggested ways to use the internet safely	24	29	35	37	31
Suggested ways to behave towards other people online	21	30	33	40	31
Helped in the past when something bothered child on the internet	23	26	32	46	32
In general, talked about what to do if something on the internet ever bothered them	21	25	33	47	32

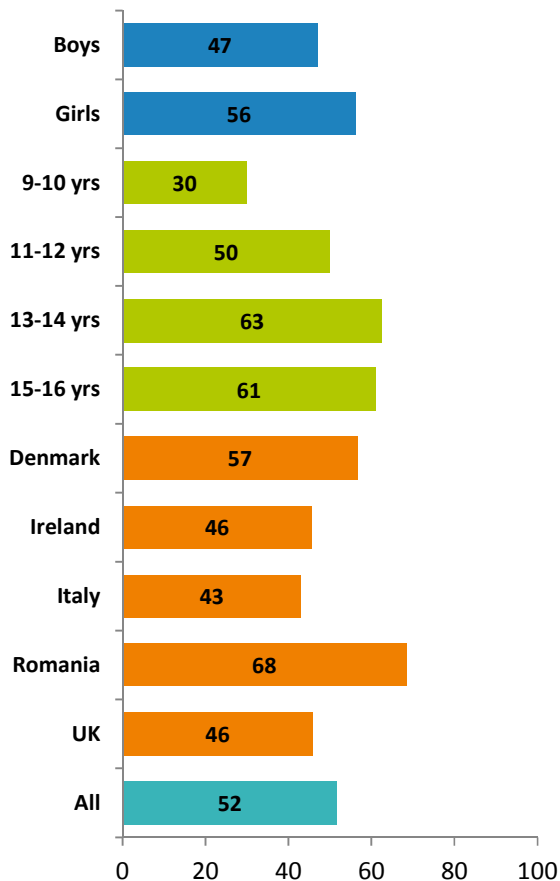
Q58: Have your friends ever done any of these things? Please say yes or no to each of the following...

Base: All children who use the internet.

- In general, **peers are more likely to mediate in a practical way, helping each other to do or find something (67%)**.
- By contrast, they are less likely **to give safety advice or to help peers in coping with a negative online experience. One in three children** engage in the other forms of active mediation of internet safety asked about.
- Table 57 also shows that, in general, **teenagers and girls are more likely to receive support from their peers**.

Figure 42 shows how the percentage of children who say that their friends engage in two or more forms of active mediation of internet safety varies by gender, age and across countries:

Figure 42: Friends' active mediation (%) of child's internet use, by gender, age and country



Q58: Have your friends ever done any of these things? Please say yes or no to each of the following... The graph shows the percentage of children who say 'yes' to at least two of the items in Table 57.

Base: All children who own or have for their own use a smartphone.

- **52% of children report their peers support them by engaging in at least two forms of active mediation of internet safety.**
- As has already emerged from data presented in Table 57, **girls and teenagers are more likely to receive at least two forms of peer support** than boys and younger children.
- Interestingly, country variations suggest that **peer support may compensate for lower parental engagement**. Indeed, children are more likely to say that their friends engage in

two or more forms of mediation of internet safety in **Romania** (68%) and **Denmark** (57%), countries where children are less likely to receive mediation by parents. Conversely, in Ireland, Italy and the UK, less than half the children report that their friends support them in at least two ways.



## 9. Mobile internet in schools

Within policy discourses, education is attributed a strategic role among various sources of internet safety: school, it is argued, can complement parental mediation by also providing **basic access to internet safety** to children whose parents are not sufficiently informed or competent. Consequently, schools and teachers are invested with more responsibilities and challenges that they are not always prepared to address. In order to fulfil their role and promote children's digital literacy, schools need to be equipped with ICT and integrate digital technologies in the teaching and learning processes. Moreover, the introduction of internet safety in educational curricula should go beyond 'don't do' lists, as overprotective measures in schools have proven detrimental to the take-up of online opportunities (O'Neill & Laouris, 2013).

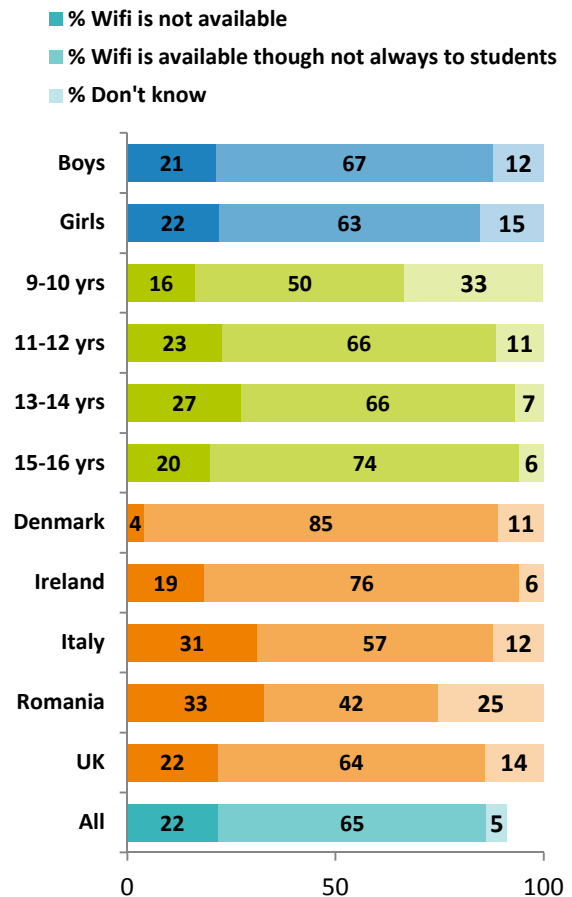
To provide a comprehensive picture of how teachers and schools can mediate children's use of the internet, we examined two aspects: school provision of **wifi networks** and **rules regarding children's use of smartphones in school**, as an indicator of the general attitude towards new technologies in the educational system; and **teachers' engagement in various mediation strategies** – namely, active mediation of internet safety, restrictions on internet and smartphone use, and promotion of positive school-related uses of the internet and smartphones.

### 9.1 Availability of and rules about wifi in schools

As we have seen, the number of children who access the internet every day in school varies considerably, from 61% of Danish children to 7% in Ireland and 8% in Italy. These inequalities are the outcome of different stages of the digitisation of schools and learning processes. As a measure of

the technological infrastructures of schools, we asked children if wifi connectivity was available in their schools, although not necessarily accessible to students, as shown in Figure 43:

**Figure 43: Availability of wifi at school, by gender, age and country**



Q60: Is wifi available at your school, and if so, are the students allowed to use it?

Base: All children who use the internet.

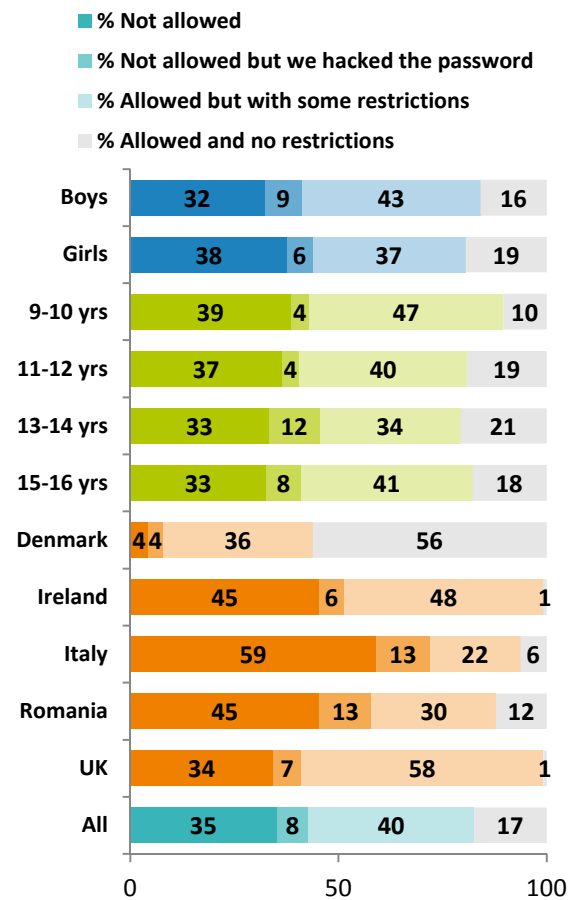
- Overall, **two thirds of schools have wifi networks, according to the children**: 65% of respondents say a wifi network is available in their school, while 22% say it is not available.
- Age differences are considerable, suggesting that **wifi networks are more common in secondary schools** (up to 74% of children aged 15-16 say there is wifi connectivity at school) than in primary schools (where availability drops to 50%).
- Country variations** show that availability of wifi networks in schools does not necessarily

mirror use of the internet in school by children. Indeed, it is **above average in Denmark and Ireland**, where **85% and 76%** of children say wifi is available in their school; average in the **UK (64%)**; lower in **Italy (57%)**; and lowest in **Romania (42%)**, where the number of children who don't know if wifi is available in school is also well above average.

Figure 44 shows whether students are allowed to access wifi networks in school, by gender, age and country. Overall, **one in three children say they are not allowed to access the school's wifi network**; **8%** are not allowed to use it but **have hacked the password**; **40%** can access the wifi network **with some restrictions**, and **just 17%** are free to use it **without any restrictions**.

- Access to wifi in schools varies somewhat by **gender**: girls are more likely to be denied access to wifi but, at the same time, slightly more likely to access it with no restrictions. On the contrary, boys are more likely to be granted access with some restrictions, and to have hacked the password.
- Access to wifi networks slightly **increases with age**, with 33% of teenagers not allowed to access the school's wifi network compared to 39% of 9- to 10-year-olds.
- **Country differences** show that access to wifi is unevenly distributed: **access with some or no restrictions** involves the great majority of **Danish children (92%)**, a consistent number of children in the **UK (59%)**, a lower but still substantial number of children in **Ireland (49%)** and **Romania (42%)**, and a minority of children in **Italy (28%)**. Italian and Romanian children are more likely to say that they have hacked the password (13%) of the school network in order to access wifi.

Figure 44: Accessibility of wifi to students at schools where wifi is available, by gender, age and country



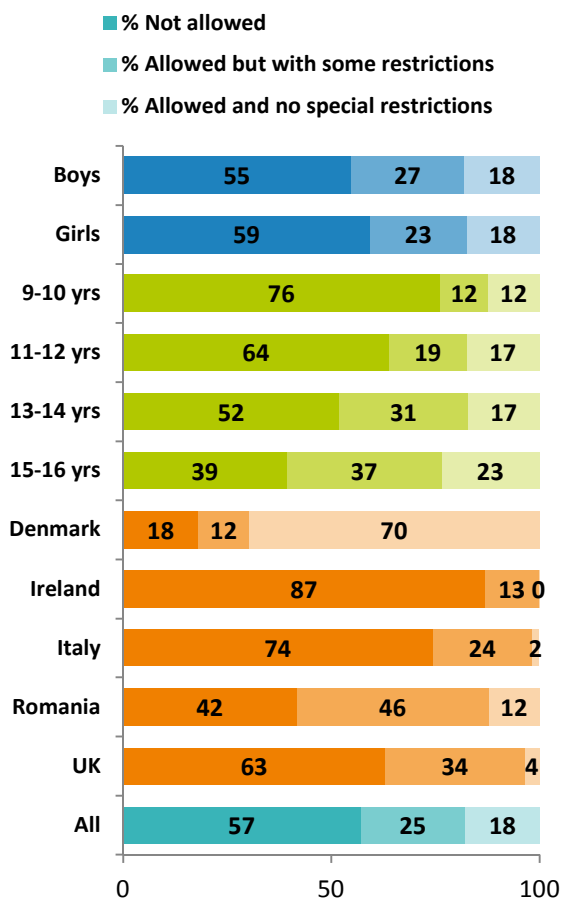
Q60: Is there Wifi available at your school, and if so, are the students allowed to use it?

Base: All children who use the internet.

## 9.2 Rules about smartphones in school

Smartphone use in schools also tends to be regulated, as shown in Figure 45:

Figure 45: Rules about smartphone use at school, by gender, age and country



Q61: Are students allowed to use their smartphones when at school?

Base: All children who use the internet.

**57% of children are not allowed to use their smartphone at school**, one in four say they can use it with some restrictions and just one in five report that they can use their phones with no restrictions. Gender, age and country differences matter:

- A smaller percentage of girls (41%) are allowed to use their smartphone in schools with some (23%) or no restrictions (18%), compared to boys (45%).

- **Smartphone use in schools increases with age:** younger children are least likely to be allowed to use their smartphones in schools, while 60% of 15- to 16-year-olds are allowed to use their phones in school, with restrictions or not.
- **Country differences are also considerable:** 87% of Irish children, 74% of Italian peers and 63% of children living in the UK are banned from using their smartphones in school. By contrast, 70% of Danish children are allowed to use smartphones with no restrictions. In Romania, 58% can use their phones, with restrictions (46%) or without (12%).

## 9.3 Teachers mediation and learning opportunities

Teachers engage in a variety of mediation activities, including providing practical guidance and restrictions (Table 58). **61% of teachers made rules about what students are allowed to do on the internet at school**, and **little more than half assist students in doing or finding things on the internet. One in two teachers also engage in mediation of children's internet safety**, by explaining why some websites are good or bad (55%), suggesting ways to use the internet safely (56%) or how to behave with others on the internet (52%). According to children, teachers are also likely to talk to them about their online activities (49%), or about what they should do after a negative online experience (41%); they are least likely to help children cope with a bothering experience (21%), but we must not forget that children themselves are not likely to talk to teachers when they have such experiences.

- **Gender and age differences are small.** We can observe, however, that teenagers generally receive more mediation of problematic online experiences or risky contacts than younger children.

Table 58: Teachers' active mediation of child's internet use, by age and gender

%...	9-12 years		13-16 years		All
	Boys	Girls	Boys	Girls	
Talked about what to do on the internet	46	47	54	49	49
Made rules about what can be done on the internet at school	56	60	65	63	61
Helped when something was difficult to do or find on the internet	51	53	57	53	54
Explained why some websites were good or bad	52	55	57	56	55
Suggested ways to use the internet safely	51	55	57	60	56
Suggested ways to behave towards other people online	48	50	56	56	52
Helped in the past when something bothered child on the internet	21	20	22	24	22
In general, talked about what to do if something on the internet ever bothered them	38	43	38	45	41

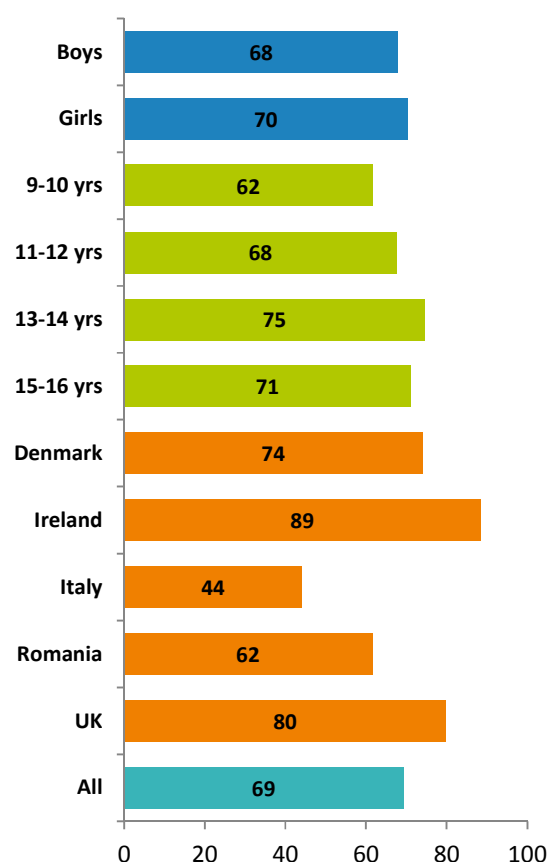
Q59: Have any teachers at your school ever done any of these things?

Base: All children who use the internet.

Figure 46 shows how teachers' mediation – measured by the number of teachers who engage in at least two activities – varies by age, gender and country. Overall, **69% of teachers engage in two or more activities to mediate students' internet use.**

- **Gender differences are small**, as already observed in Table 58.
- **Teachers' mediation increases with age**, and reaches a peak in early adolescence, with teenagers aged 13-14 receiving more mediation than any other age group.

Figure 46: Teachers' active mediation (%) of child's internet use, by gender, age and country



Q59: Have any teachers at your school ever done any of these things? The graph shows the percentage of children who say 'yes' to at least two of the items in Table 58.

Base: All children who use the internet.

- **Country variations** are considerable: the majority of Irish (89%) and UK teachers (80%), and two out of three Danish teachers (74%) mediate children's internet use in at least two ways. By contrast, the number of teachers engaged in at least two of the mediation activities measured drops in Romania (62%) and Italy (44%).

We can draw some interesting conclusions at this point, comparing restrictions on the use of wifi networks with teachers engagement: in countries where children are allowed to access the school wifi with no or low restrictions, teachers are also more likely to mediate children's relationship with the internet. Allowing internet use in school, therefore, does not necessarily mean encouraging unsupervised use.

Beyond active mediation of children's internet safety, teachers may also encourage positive uses of the internet by promoting use of the internet and smartphones in school-related activities. Table 59 shows how frequently teachers have encouraged students to use the internet and smartphones in learning activities, according to the children:

**Table 59: Use of the internet and smartphones at school**

%	Several times each day	Daily or almost daily	At least every week	Never or almost never
Use the internet to do research for school assignments	7	21	43	29
Collaborate with other students over the internet	3	10	23	64
Use smartphones for assignments in class	2	5	9	84

Q62: If you think about your school how often do the teachers want students to do these things?

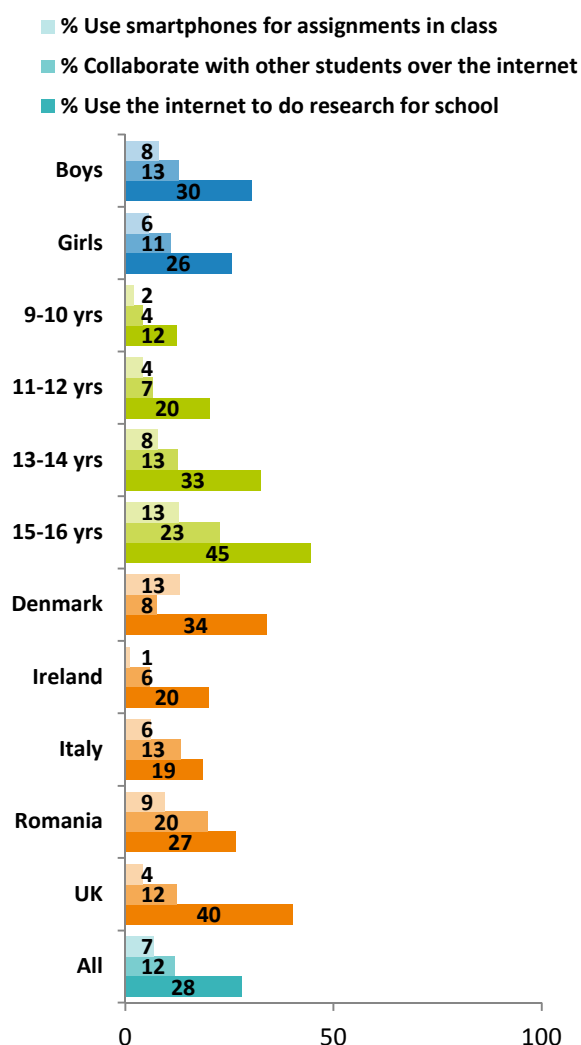
Base: All children who use the internet.

- **Two out of three children report being encouraged by their teachers to use the internet to do research for school assignments at least every week; however, just 28% of children report this happens every day.**
- One in three children report being encouraged to collaborate with other students on the internet at least every week.
- Less common is being encouraged to use smartphones for assignments in class.

Figure 47 shows how the number of children whose teachers promote every day the use of the internet and smartphones for school assignments varies by gender, age and country:

- Boys are slightly more likely to be encouraged to use the internet and smartphones for school-related activities than girls.
- The integration of the internet and smartphones into the learning process substantially increases with age.

**Figure 47: Students who use the internet or smartphones daily at school, by gender, age and country**



Q62: If you think about your school, how often do the teachers want students to do these things?

Base: All children who use the internet.

- Country variations are also considerable: although still marginal, the use of smartphones in daily class activities is promoted especially in Danish (13%) and Romanian (9%) schools. Use of the internet for school activities is particularly encouraged in the UK (40%) and Denmark (34%). Italian and Romanian children are more likely to be encouraged to collaborate with other students over the internet. Overall, however, the integration of new technologies in learning activities in Italy and Ireland is quite poor.

# 10. Conclusions

In this chapter, we provide an overview of the main findings presented throughout the report, and try to address the main research questions: what, if anything, is specific to mobile internet users? Does the use of mobile devices to go online pose more or fewer risks to children?

## 10.1 Access, usage, opportunities and skills

Tables 60 and 61 provide an overview of locations of use, age of first internet use, online activities and skills by age, and mobile versus non-mobile internet use.

**Locations of access and use.** Ways of going online are diversifying with the diffusion of mobile media. Smartphones in particular are becoming an integral part of the media ecologies that children inhabit: among all the devices asked about, smartphones are the devices that children are more likely to own (51%) or use to go online at least daily (45%) in all the contexts we examined. **Despite being the devices most likely to be used on the move, however, smartphones are mainly used at home, more often in the privacy of the child's own bedroom.** As shown in Table 60, 80% of children use the internet daily at home: domestic access to the internet (in own bedroom or elsewhere at home) increases with age, rising from 59% of 9- to 10-year-olds to 93% of older teenagers. **Mobile internet users are much more likely to use the internet at home every day (96%) than children who don't use smartphones or tablets to go online (63%).** These findings suggest that the internet is more thoroughly embedded in the lives of children who have access to mobile devices to go online. Second, the home is still a strategic site for raising awareness on online risks and for promoting safer and responsible uses of the internet. However, as we have seen, smartphones and tablets in general are personal, portable media which are thoroughly

and seamlessly integrated into children's and their parents' everyday life.

**Table 60: Summary of children's access, use, activities and skills, by age**

% Age	Age				All
	9-10 yrs	11-12 yrs	13-14 yrs	15-16 yrs	
Daily internet use at home (bedroom or elsewhere)	59	76	90	93	80
Daily internet use at school	8	21	24	38	23
Has a profile on SNS	28	57	85	93	67
Has a profile on media sharing platform	11	27	42	53	34
Daily contact with parents on SNS	8	13	7	11	10
Daily contact with friends on SNS	38	70	76	87	75
How old when first used the internet	6,9	7,9	8,9	9,6	8,4
Average number of skills related to internet use	1,9	4,6	7,2	8,6	5,7

For the exact questions, see earlier sections and definitions at the end of this chapter.

Base: All children who use the internet.

**Table 61: Summary of children's access, use, activities and skills, comparing mobile and non-mobile users**

% Daily use of mobile devices	Daily use of mobile devices			All
	Smart-phones	Tablets	Neither	
Daily internet use at home (bedroom or elsewhere)	96	96	63	80
Daily internet use at school	43	33	7	23
Has a profile on SNS	88	77	50	67
Has a profile on media sharing platform	54	47	15	34
Daily contact with parents on SNS	11	13	8	10
Daily contact with friends on SNS	83	82	66	75
How old when first used the internet	8,1	7,8	8,8	8,4
Average number of skills related to internet use	7,7	6,9	4,1	5,7

For the exact questions, see earlier sections and definitions at the end of this chapter.

Base: All children who use the internet.



Consequently, the **increasingly privatised conditions of internet use** are likely to inhibit or challenge established parental mediation strategies such as active mediation of children's online experiences. Therefore, it is of vital importance that when industries, governments, policy makers, NGOs, researchers and other stakeholders cooperate to build a better internet for children, they should prioritise goals such as content classification, age-appropriate services and privacy settings, and easy and robust reporting mechanisms on mobile devices and services. These tools can complement parental mediation, while empowering and protecting children.

School is the second most common location of internet access; however, use of the internet in school is unevenly distributed across the five countries surveyed, and overall just **23% of respondents reported using the internet at school everyday**. Access at school is also structured by age, with older teenagers (38%) five times more likely than younger children (8%) to use the internet at school everyday. **Smartphone users (43%) and tablet users (33%) are far more likely than non-mobile internet users (7%) to access the internet daily at school**. Despite these considerable variations, the importance of schools as places to engage children in online safety education cannot be underplayed, especially in those countries where parents are less likely to be internet and smartphone users themselves, such as Romania. Schools also provide the chance to engage children in forms of peer mediation.

**Age of first internet use.** Table 60 also shows that **the age when children start to go online is dropping**, with younger children being around six when they first used the internet; children who use smartphones and tablets to go online were slightly younger when they started to use the internet (Table 61). These findings and those presented in Figure 4 earlier show that children go online at even younger ages from a variety of devices. Beyond children who are given a smartphone at the age of eight, younger children are also likely to borrow a tablet computer from their parents or older siblings. It is therefore important to ensure age-appropriate settings and contents on all devices.

**Activities.** Comparison of online activities across time (Table 11) has shown that **social networking, entertainment on media sharing platforms and sharing content with others are on the rise**. Table 60 shows that two out of three children have at least one profile on a SNS, and one in three have a profile on a media sharing platform such as YouTube or Instagram; the age trend is marked in both social media items, suggesting that, at least in some countries (see also Table 14), under-age use of SNS is dropping. It is not clear at this stage whether this is the outcome of awareness-raising campaigns targeting parents and consequent parental mediation, or of media panics. However, the findings suggest that there is potential for reducing under-age use of SNS even in countries where parents are less familiar with the internet. Table 61 shows that **the differences between mobile and non-mobile internet users in the use of SNS and media sharing platforms are considerable**: 88% of smartphone users and 77% of tablet users have at least one profile on a social network platform compared to just half of the children who use neither of the mobile devices to go online; similarly, 54% of smartphone users and 47% of tablet users report having a profile on a media sharing platform, compared to 15% of non-mobile internet users. Given that smartphones and tablet users are more likely to use SNS and to share media content on the internet, we can therefore assume a correlation – although not a causal relationship – between mobile-convergent media and online participatory activities.

**Communication.** Three out of four children use SNS to keep in touch with their friends on a daily basis, while just one in ten is in contact with parents every day. Daily contact with friends on SNS increases with age, reaching a peak of 87% of older adolescents; by contrast, contact with parents is higher among 11- to 12-year-olds. **Smartphone and tablet users are more likely than non-users to be in daily touch with both friends and parents on SNS.**

**Skills.** On average, children claim half (5.7) of the 12 internet skills we asked about (see also Figure 20). The average number of skills is strongly structured by age, ranging from two skills claimed by 9- to 10-year-olds to over eight skills among 15-



to 16-year-olds. Variations between mobile and non-mobile internet users are also consistent: while **smartphone users claim 7.7 skills** on average, and **tablet users** slightly less (**6.9**), children who use **neither smartphones nor tablets** to go online claim **just 4.1 skills**.

From the brief overview of data on access, usage, activities and skills, we can conclude that these **findings are supportive of the ‘usage hypothesis’: the more children use the internet, the more opportunities they take up and the more skills they develop**. Smartphone and tablet users use the internet more, both at home and school (as well as in all the locations asked about), are more likely to engage in the activities we measured and claim nearly twice as many skills as children who don’t use mobile devices to go online.

## 10.2 Risks and harm

**Online risky experiences do not necessarily result in harm**, as reported by children. Rather, prior research showed that children who encounter more risks online are not necessarily those who experience more harmful consequences. On the contrary, they are usually more skilled and develop more resilience (Livingstone *et al.*, 2011, 2012).

**Risks.** For the purpose of comparing and summarising the findings presented throughout this report, Table 62 reviews the incidence of risk online by age for each of the risks included in the survey. Table 63 compares the incidence of risks among mobile internet users and non-mobile internet users.

**The most common risk of children’s internet use is seeing potentially negative user generated content [UGC]** (concerned with hate, pro-anorexia, self-harm, drug taking or suicide), experienced by 31% of 11- to 16-year-olds.

**Table 62: Summary of children’s negative online experiences, by age**

% in past 12 months	Age				All
	9-10 yrs	11-12 yrs	13-14 yrs	15-16 yrs	
Treated in a hurtful or nasty way online or offline	26	23	31	28	27
Experienced any form of cyberbullying	10	11	18	17	14
Treated others in hurtful or nasty way online or offline	16	17	13	20	17
Treated others in hurtful or nasty way using internet or mobile phones	6	9	8	13	9
Received sexual messages (only 11+)	n/a	5	11	21	13
Had contact with someone not met face to face before	17	23	34	44	30
Gone to a face-to-face meeting with someone only met online before	5	9	12	21	12
Seen sexual images online or offline	14	17	36	46	29
Seen any type of harmful user-generated content on websites	n/a	21	30	42	31
Have had other negative online experiences	22	19	28	36	27
Excessive internet use (two out of five items)	9	17	26	36	22

For the exact questions, see earlier sections and definitions at the end of this chapter.

Base: All children who use the internet.

Almost as common is **communicating online with someone the child has not met face to face before**, characteristic of 30% of 9- to 16-year-olds. As already noted, however, such communication is also an opportunity for children to make new friends beyond the constraints they experience offline (such as those associated with disadvantaged socio-economic background).

**Table 63: Summary of children's negative online experiences, comparing mobile and non-mobile users**

% in past 12 months	Daily use of mobile devices			All
	Smart-phones	Tablets	Neither	
Treated in a hurtful or nasty way online or offline	31	29	23	27
Experienced any form of cyberbullying	19	17	9	14
Treated others in hurtful or nasty way online or offline	16	15	18	17
Treated others in hurtful or nasty way using internet or mobile phones	9	8	10	9
Received sexual messages (only 11+)	16	13	9	13
Had contact with someone not met face to face before	39	34	23	30
Gone to a face-to-face meeting with someone only met online before	14	11	12	12
Seen sexual images online or offline	39	33	20	29
Seen any type of harmful user-generated content on websites	36	35	25	31
Have had other negative online experiences	32	34	22	27
Excessive internet use (two out of five items)	32	30	14	22

For the exact questions, see earlier sections and definitions at the end of this chapter.

Base: All children who use the internet.

**Seeing sexual images off- and online is the third most common risk**, reported by 29% of children aged 9-16.

Rather less **(27%)** is the number of **children who experienced other risks online, such as viruses or personal data misuse**.

Similarly, **27% of children aged 9-16 report being bullied on- or offline**. The number of children who reported any form of **cyberbullying** on the internet or through mobile phones is, however, **14%**.<sup>11</sup>

<sup>11</sup> Note that 27% of children said that they had been treated in a hurtful or nasty way but only 21% specified how this had happened. For those who had been 'very upset', 8% failed to give a concrete answer as to how this had happened, for the 'a little upset' group 11% didn't give a definitive answer to how it

A total of 22% had experiences of at least two of the five behaviours we associated with over-dependence on the internet.

Last, and **least common, are receiving sexually suggestive messages** (13% of 11- to 16-year-olds) **and going to meetings offline with people first met online** (12% of 9- to 16-year-olds).

All risks increase with age, and among smartphone and tablet users. This supports the so-called **'more opportunities, more risks' hypothesis**: older users and smartphone and tablet users benefit from more online opportunities, but are also exposed to more risks.

**Harm.** Risk refers to the probability of harm, while the severity of harm has been judged by children who reported being upset for what they had seen or experienced on the internet. Table 64 summarises the number of children who have been bothered by online risky experiences, by age, while Table 65 shows the differences between mobile internet users and children who don't use smartphones or tablets to go online.

Overall **21% of children said they had seen or experienced something on the internet that had bothered them**.

As already noted in the EU Kids Online survey, **bullying is still the most harmful risky experience**: two out of three children who have been bullied on- or offline claim they have been 'very' or 'a bit' upset.

Sexual risks are the second most bothering of the experiences: **half of the children who have received sexual messages and of those who have seen sexual content of any kind (on- and offline) have been bothered**.

Last, meeting online contacts offline is the least common risky experience, and one that bothers the least: just one in three children who have gone to such meetings were upset from what happened.

happened and for the 'not at all upset', 23% didn't give a definitive answer.

Age trends are less clear compared to incidence of risks: both younger children (23%) and those aged 13-14 (23%) are more likely to be harmed by bullying. This finding is consistent with prior research, confirming that younger children are usually more vulnerable to harmful consequences, and that the transition from pre-adolescence to adolescence marks a time of increased bullying. Younger teenagers are also more vulnerable to sexting and sexual images.

The incidence of harm among smartphones and tablet users follows an interesting pattern: generally **smartphone users (28%) and tablet users (25%) are more likely to say that they have seen or experienced something on the internet that bothered them.** However, **this increased exposure to bothering experiences does not necessarily imply more harmful experiences:** while tablet users report lower harm or equal to what is seen as average, smartphone users are just slightly more likely than average to report harmful consequences from bullying, sexual messages and sexual images, but they experience less harm from face-to-face meetings with online contacts than children who use neither smartphones nor tablets to go online.

**Table 64: Summary of children's harmful experiences online, by age**

	Age				All
	9-10 yrs	11-12 yrs	13-14 yrs	15-16 yrs	
% in past 12 months					
Have seen or experienced something on the internet that has bothered them	14	17	22	30	21
Treated in a hurtful or nasty way online or offline and been upset	23	18	23	18	21
Received sexual messages and been upset (only 11+)	n/a	3	7	10	7
Gone to a face-to-face meeting and been upset	3	4	3	5	4
Seen sexual images and been upset	10	11	19	16	14

For the exact questions, see earlier sections and definitions at the end of this chapter.

Base: All children who use the internet.

**Table 65: Summary of children's negative online experiences, comparing mobile and non-mobile users**

	Daily use of mobile devices			All
	Smart-phones	Tablets	Neither	
% in past 12 months				
Have seen or experienced something on the internet that has bothered them	28	25	15	21
Treated in a hurtful or nasty way online or offline and been upset	22	21	19	21
Received sexual messages and been upset (only 11+)	8	6	5	7
Gone to a face-to-face meeting and been upset	3	2	5	4
Seen sexual images and been upset	16	14	13	14

For the exact questions, see earlier sections and definitions at the end of this chapter.

Base: All children who use the internet.

## 10.3 Mediation

Finally, Tables 66 and 67 summarise findings regarding parents and peer mediation. These findings suggest that **parents engage more in active mediation of internet safety (79%),** which makes it the most common intervention by parents, followed by active mediation of internet safety (67%) and restrictions (61%). Compared to the EU Kids Online data (2010) parental mediation of children's online safety is increasing, while active mediation of internet use and restrictions are less often adopted by parents. Technical restrictions are still the least favoured mediation activities, adopted by just one in four parents. One in two children say they received mediation from their friends, and 62% are very likely to talk to at least one person when they have negative online experiences.

Table 66: Summary of mediation, by age

% in past 12 months	Age				All
	9-10 yrs	11-12 yrs	13-14 yrs	15-16 yrs	
Active mediation of internet use by parents	84	73	64	51	67
Active mediation of internet safety by parents	84	82	82	71	79
Restrictive mediation of internet safety by parents	88	75	52	34	61
Technical mediation of internet safety by parents	28	35	27	17	26
Active mediation by friends	30	50	63	61	52
At least one person very likely to talk to if bothered	69	62	59	59	62

For the exact questions, see earlier sections and definitions at the end of this chapter.

Base: All children who use the internet.

Table 67: Summary of mediation, comparing mobile and non-mobile users

% in past 12 months	Daily use of mobile devices			All
	Smart-phones	Tablets	Neither	
Active mediation of internet use by parents	60	64	73	67
Active mediation of internet safety by parents	80	84	78	79
Restrictive mediation of internet safety by parents	38	48	80	61
Technical mediation of internet safety by parents	26	30	24	26
Active mediation by friends	61	61	44	52
At least one person very likely to talk to if bothered	62	64	62	62

For the exact questions, see earlier sections and definitions at the end of this chapter.

Base: All children who use the internet.

**Younger children are more mediated by parents than teenagers, while 13- to 16-year-olds receive more mediation by peers.**

As shown in Table 67, **smartphone and tablet users are less likely to be restricted** in their online activities, and receive less active mediation of internet use by parents. But they are **more likely**

**to receive mediation of internet safety by parents and friends.** Tablet users are also slightly more likely to report that their parents adopt technical mediation. When it comes to social responses to online risks, mobile internet users are as likely as or more likely than non-users to have at least someone they would talk to.

## 10.4 Conclusive remarks

The findings presented in this report show that there is an increasing awareness of online risks among parents and children: important factors - such as the decrease of underage use of SNS (social networking sites) in certain countries, the growing engagement of parents in mediating children's online safety, and the acquisition of safety skills or the adoption of preventive measures among children - all signal this trend, although country differences are notable.

A second major finding is that exposure to online risks seem to have increased compared to the 2010 EU Kids Online data, more specifically among children using also mobile devices to go online. Further analysis is required in order to identify which children, among smartphone and tablet users, are more vulnerable. What is clear from these findings is that we cannot assume smartphone and tablet use as a factor of vulnerability. Rather, the **'more opportunities, more risks'** thesis is a valid framework to understand the changes associated with smartphones and tablets, changes that lead to more pervasive internet access and use in children's everyday lives. Since more children are going online, and they are doing so from more devices and in more contexts, it is no surprise that exposure to online risks is increasing; what is surprising is that **the proportion of those who are harmed out of those who experienced any risk is not increasing.**

## 10.5 A list of variables used in tables in this chapter

Daily internet use at home (bedroom or elsewhere): See Table 1 and Table 2

*Q1 a-e: Looking at this card, please tell me how often you go online or use the internet (from a computer, a mobile phone, a smartphone, or any other device you may use to go online) at the following locations...*

Daily internet use at school: See Table 1 and Table 2

*Q1 a-e: Looking at this card, please tell me how often you go online or use the internet (from a computer, a mobile phone, a smartphone, or any other device you may use to go online) at the following locations...*

Has a profile on SNS: See Figure 6

*Q16 a-f: Do you have your own profile on a SNS (e.g. Facebook, Twitter, etc.) that you currently use and if you have a profile/account, do you have just one or more than one?*

Has a profile on media sharing platform: See Figure 7

*Q23 a-f: Do you have your own profile/account on a media sharing platform (photo and video) such as YouTube, Instagram, Flickr, that you currently use, and if you have a profile/account, do you have just one or more than one?*

Daily contact with parents on SNS: See Table 18 and Figure 15

*Q18: How often are you in contact with the following people on SNS?*

Daily contact with friends on SNS: See Table 19 and Figure 15

*Q18: How often are you in contact with the following people on SNS?*

How old when first used the internet: See Table 8 and Figure 4

*Q5: How old were you when you first used the internet?*

Average number of skills related to internet use: See

Figure 20

*Q26 a-d, Q27 a-h: Which of these things do you know how to do? (Average out of 12 items.)*

Treated in a hurtful or nasty way online or offline: See Figure 24

*Q32: In the PAST 12 MONTHS, has someone treated you in this kind of way, and if so, how upset were you about happened?*

Experienced any form of cyberbullying: See Table 36 and Table 37

*Q33: If someone has treated you in this kind of way, how did it happen? (Multiple responses allowed)*

Treated others in hurtful or nasty way online or offline: See Table 38

*Q34 In the PAST 12 MONTHS, have you ever behaved in this way to someone else and if so, in which way did you do it? (Multiple responses allowed.)*

Treated others in hurtful or nasty way using internet or mobile phones: See Table 39

*Q34 In the PAST 12 MONTHS, have you ever behaved in this way to someone else and if so, in which way did you do it? (Multiple responses allowed.)*

Received sexual messages (only 11+): See Figure 25

*Q42: In the PAST 12 MONTHS, have you received sexual messages of this kind (this could be words, pictures or videos), and if so, how upset were you about happened?*

Had contact with someone not met face to face before: See Figure 26

*Q37: In the PAST 12 MONTHS, have you ever had contact on the internet (on all platforms/devices) with someone you had not met face to face before? This could have been by email, chatrooms, SNS, instant messaging or gaming sites.*

Gone to a face-to-face meeting with someone only met online before: See Figure 27

*Q39: In the PAST 12 MONTHS, have you ever gone on to meet anyone face to face who you had first met on the internet, and if so, were you at all upset by what happened or wish that you had not done it?*

Seen sexual images online or offline: See Figure 29

*Q35: In the PAST 12 MONTHS, have you seen anything of this kind, and if so, how upset were you by what you saw?*

Seen any type of harmful user-generated content on websites (age 11+): See Table 46

*Q44: In the PAST 12 MONTHS, have you seen websites where people discuss...*

Have had other negative online experiences: See Table 47

*Q45: In the PAST 12 MONTHS, has any of the following happened to you on the internet/on your smartphone/mobile phone?*

Excessive internet use (two out of five items): See Figure 32 shows

*Q46: In the PAST 12 MONTHS, how often, have these things happened to you? The figure indicates the percentage of children who answer 'fairly often' or 'very often' to at least two of the five statements in Figure 31*

Have seen or experienced something on the internet that has bothered them: See Figure 22

*Q30: In the PAST 12 MONTHS, have you seen or experienced something on the internet that has bothered you in some way? For example, made you feel uncomfortable, upset, or feel that you shouldn't have seen it?*

Treated in a hurtful or nasty way online or offline and been upset: See Figure 24

*Q32: In the PAST 12 MONTHS, has someone treated you in this kind of way, and if so, how upset were you about happened?*

Received sexual messages and been upset (only 11+): See Figure 25

*Q42: In the PAST 12 MONTHS, have you received sexual messages of this kind (this could be words, pictures or videos), and if so, how upset were you about happened?*

Gone to a face-to-face meeting and been upset: See Figure 27

*Q39: In the PAST 12 MONTHS, have you ever gone on to meet anyone face to face who you had first met on the internet, and if so, were you at all upset by what happened or wish that you had not done it?*

Seen sexual images and been upset: See Figure 29

*Q35: In the PAST 12 MONTHS, have you seen anything of this kind, and if so, how upset were you by what you saw?*

Active mediation of internet use by parents: See Table 52 and Figure 35

*Q53: Does your parent/do either of your parents sometimes... The figure indicates the percentage of children who say 'yes' to at least two of the items in Table 52.*

Active mediation of internet safety by parents: See Table 53 and Figure 36

*Q54: Has your parent/have either of your parents ever done any of the following things with you? The figure indicates the percentage of children who say 'yes' to at least two of the items in Table 53.*

Restrictive mediation of internet safety by parents: See Table 54: and Figure 37

*Q55: For each of these things, please tell me if your parents CURRENTLY let you do them whenever you want, or let you do them but only with permission or supervision, or NEVER let you do them. The figure indicates the percentage of children who say 'can never do this' to at least two of the items in Table 54.*

Technical mediation of internet safety by parents: See Table 55: and Figure 38

*Q56: As far as you know, does your parent/do your parents make use of any of the following for the computer that you use the MOST at home? The figure indicates the percentage of children who say 'yes' to at least two of the items in Table 55.*

Active mediation by friends: See Table 57 and Figure 42

*Q58: Have your friends ever done any of these things? Please say yes or no to each of the following... The figure indicates the percentage of children who say 'yes' to at least two of the items in Table 57.*

At least one person very likely to talk to if bothered: See Figure 30

*Q48: If you were to experience something on the internet or when you were online from different devices that bothered you or made you upset, how likely or unlikely is it that you would talk with the following people? (% who say they are very likely to talk to at least one of those named in Table 48).*



# Annex 1:

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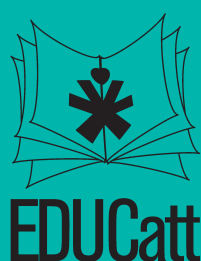
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